

EXECUTIVE OFFICE OF THE PRESIDENT  
COUNCIL ON ENVIRONMENTAL QUALITY  
Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3  
722 JACKSON PLACE, N. W.  
WASHINGTON, D. C. 20006

DATES

Paper

- ✓ ① 1<sup>MS</sup> Air Pollution Modeling and Instrumentation: Feb 27/US
  - ✓ ② 2<sup>MS</sup> Air Pollution Control Techniques: March 11-25/USSR
  - ✓ ③ 3<sup>WR</sup> Water Pollution: 1st visit March/USSR  
2nd visit April/US  
3rd visit August/USSR
  - ✓ ④ 4<sup>GW</sup> Agricultural Pollution: March 19/US  
Conference on Integrated Pest Management:  
August/USSR
  - ✓ ⑤ 5<sup>BB+LM</sup> Urban Environment: Feb 27/US
  - ✓ ⑥ 6<sup>CM</sup> Wildlife Conservation: Jan 23-Feb 1/USSR
  - ⑦ \* 7<sup>GW</sup> Permafrost: 3rd quarter/US
  - ⑧ { 8. Reserved Areas: May-June/US
  - ⑨ { 9<sup>BB</sup> Marine Oil Pollution: Ships: Late March/US  
2nd visit: Sept/USSR
  - ⑩ { 10<sup>BB</sup> Marine Oil Pollution: Other: March-April/US
  - ✓ ⑪ 11<sup>BB</sup> Marine Organisms: Early March/US
  - ⑫ 12<sup>SW</sup> Analysis of Environment: 1st visit April-May/US  
Symposium 4th quarter/USSR
  - ✓ ⑬ 13<sup>EM WR</sup> Biological & Genetic Effects: March 12/US
  - ✓ ⑭ \* 14<sup>MS</sup> Influence of Environmental Changes on Climate: April/US
  - ⑮ \* 15<sup>SW</sup> Earthquake Prediction: March 5/US
  - ⑯ 16. Legal & Administrative: April 3/US
- Second Meeting of US-USSR Joint Committee: Late September

[Soviets proposed  
splitting Groups 7 & 8  
into two groups each.  
We are considering this.]

①

## Air Pollution Modelling and Instrumentation

### 1. Composition of working group

- (a) U.S. Agencies interested, and representatives where identified, are:

EPA: Dr. H. Wiser, Chairman  
Mr. R. McCormick, Sub-chairman for meteorology  
Mr. G. Morgan, Sub-chairman for monitoring.  
Dr. W. Johnson, modelling  
Dr. A. P. Altshuller, instrumentation  
NSF: Dr. W. Lowry, Metromex (Metropolitan Meteorological Experiments)  
AEC: Dr. R. Englemann (or alternate)  
NOAA: Dr. R. Peschel (or alternate)  
DOT: Dr. R. Underwood (or alternate)

The Environmental Protection Agency will have about 10 additional working group specialists attendant at meetings held within the U.S. The other U.S. Agencies may or may not elect to send their above representatives to the Soviet Union.

The resulting U.S. working group will be comprised of about 8 to 12 persons for meetings within the Soviet Union and about twice that number for meetings within the United States. The working group will also include private organization personnel; probably, but not certain, the following:

- (b) Dr. Mahoney, modelling (University)  
Dr. G. Slinn, precipitation scavenging (University)  
Dr. Alpen, Battelle N.W., meteorology  
Two pollution engineers from the City and County of St. Louis, Missouri.  
Instrumentation Specialist (to be selected)

### 2. First meeting of the working group

Following the Soviet request for postponement of the meetings proposed for December, EPA has proposed rescheduling to January 15, following the same agenda as originally proposed. A copy of the proposed agenda is attached.

### 3. Agenda for cooperation

- (a) Objectives:

#### Modelling

- (1.) Predictive Model Development
- (2.) Model evaluation: Evaluation of each country's physical and numerical simulation models on other country's data base.
- (3.) Hierarchy of submodels: emissions inventory techniques and time scale requirements.
- (4.) Complex topography applications
- (5.) Laboratory scale modeling

3. Agenda for cooperation cont'd

Processes Objective:

- (1.) Pollution removal processes, such as scavenging by precipitation.
- (2.) Physical and chemical transformation processes, including aerosol characteristics.

Monitoring Methodology Objective:

- (1.) Instrumentation: advanced research in both direct contact and remote sensors.
- (2.) Monitoring network: comparative rationales for and analysis of monitoring network design, operation, including supporting laboratory services requirements, for monitoring both mobile and stationary pollution sources.
- (3.) Data acquisition, validation and presentation systems.

Benefits:

[ Soviets have same objectives and desires as U.S. Benefits should accrue to U.S. because we have reason to believe that:

(1.)

- a. Soviets have done more in local wind dispersion, scavenging by precipitation and aerosol physics and chemistry.
- b. U.S. scientists must close the 4-5 year gap in our knowledge of Soviet literature. Soviets read journals in English, we do not read or translate Russian journals.
- c. Soviets have RAPS-like projects in Central Asia, Caucasus and Siberia about which we know very little. We want to obtain full scientific reports on Soviet RAPS.
- d. What airborne and ground monitoring equipment have Soviets used that may help us in St. Louis?

Benefit to Soviets: Soviets do much manual data analysis (about 15 years behind U.S.).

Benefit to Both: Establish program to compare and evaluate instruments, methods and models on a side by side basis in both countries.

3. Agenda for cooperation cont'd

- (b) First meeting of the working group in U.S. probably January of February 1973.

Second meetings are proposed for spring (May 1973) in Leningrad (plus request visit to Caucasian Region Air Pollution Study location).

Third meeting proposed for late 1973 (or winter 1974) in Leningrad (plus request visit to Central Asia and/or Siberia Region Air Pollution Study locations).

Fourth meeting June or July 1974 in St. Louis.

Specific reason for two trips to USSR in 1973.

Program has been based on two meetings within each country over the eighteen month period up to July 1974.

The first meeting is planned ASAP (probably January or February 1973) in the United States. This will include an indoctrination visit to St. Louis and tutorial sessions in Washington (and possibly Research Triangle Park).

The total RAPS instrumentation and research network in St. Louis will not become fully operational until spring or summer 1974. Therefore, the next meaningful visit to St. Louis should be during the summer of 1974 (the end of the eighteen month planning period).

Therefore the two visits to USSR should take place in the interim. The first visit to Leningrad could take place in the spring of 1973 (May, perhaps), soon after the Soviet visit to the USA. The second visit to the Soviet Union could take place in late fall or winter of 1973, when cold climate pollution studies could be discussed. This would be extremely valuable to U.S. air pollution researchers. The August 1973 date originally proposed was considered very tentative. A more satisfactory date could be in October or November 1973. The Soviets may have recommendations to make on this topic.

- (c) The only uncertainties or problem areas at this time are ones of travel logistics, obtaining interpreters and private organization representation.

Soviets should accept most technical aspects of agenda. Soviets may refuse to permit visits to air pollution study regions other than Leningrad (such as Caucasus, Central Asia, Siberia).

- (d) Budget estimates

FY-73 -- Assuming Soviets visit Washington, St. Louis, and RTP in January 1973, and a modest sized U.S. group visits Leningrad in May 1973.

20 U.S. personnel, 3 days in Washington at workshop

Per diem	20 x 3 x \$25	=	\$ 1,500
Travel average	20 x \$200	=	4,000

5 U.S. personnel to accompany Soviet visitors to St. Louis, RTP and return to Washington.

Per diem	5 x 6 x \$25	=	750
Travel	5 x \$300	=	<u>1,500</u>

First meeting travel & per diem = \$ 7,750

Salaries, including university consulting participating personnel	7,750
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Secretarial	4,000
Interpreters (3)	<u>2,000</u>

Total first meeting	\$ 13,750
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Second Meeting in Leningrad (May 1973)

10 U.S. personnel @ \$2,000	=	\$ 20,000
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FY-73 Total	\$ 33,750
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FY-74 costs would be similar	(\$ 33,750)
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The sources of funds are to be, per instructions from CEQ, the participating agencies.

Therefore, EPA will absorb most of the costs, with the other agencies funding their own personnel. Each agency will fund the university representative who happens to be a consultant to that agency.

The funding of the St. Louis municipal air pollution specialists has not been resolved.

4. Involvement of Private Organizations

Many private organizations want to be included--some who really cannot contribute to the working sessions.

Keeping the U.S. working group down to a manageable and tolerable level, and not embarrass segments not selected for representation, will be a problem, but is being resolved.

5. Public Relations Plan

Pending internal EPA decisions on how to proceed with a coordinated public relations plan, we can only comment that, as appropriate, releases will be made to the general press and the trade press covering activities of the Air Pollution Modelling and Instrumentation Group. Congressman Symington's staff is ensuring that there will be high visibility for the St. Louis visit and subsequent activities, and is helping to make high-level contacts with interested persons in local government, academic, and industrial groups.

Attachment

Proposed Program

Dec. 4: Washington, D.C.

A. Initial discussion of work program of working group for coming year

B. US presentation of St. Louis program:

1. Regional air pollution study

a. objectives

b. research plan:

meteorological modeling program

atmospheric photochemistry

emissions inventories

ambient air monitoring

health and welfare effects

c. facilities

d. management and scheduling

2. Metropolitan meteorological experiments

a. National Science Foundation

b. National Oceanographic & Atmospheric Agency

c. Atomic Energy Commission

d. Department of Transportation

Dec. 5: Washington, D.C.

C. Soviet presentation of the Leningrad program

Dec. 6: Washington, D.C.

D. Soviet presentation: instrumentation & methodology (morning)

E. US presentation (afternoon):

1. Instrumentation & methodology research & development for the regional study

2. Development of reference methods for monitoring of ambient air quality and source emissions

Dec. 7: Research Triangle Park, North Carolina (National Environmental Research Center)

1. Instrumentation & methodology research & development, emphasis on laboratory activities

2. New methods of controlling emissions from stationary sources

Dec. 8: St. Louis

Visit to representative instrumented station, introduction to data acquisition system, view of local terrain

Dec. 9-10: St. Louis

Sightseeing

Remainder of Program: Open (To include final meeting in Washington to agree on work program)



US - USSR Environmental Agreement  
1st Meeting, Working Group on Air Pollution  
Modeling and Instrumentation

Washington, D. C.

FIRST DAY

1. ST. LOUIS AIR POLLUTION STUDY (SLAPS): Presentation by the United States
  - A. Regional Air Pollution Study (RAPS): Environmental Protection Agency
    1. Background - R. A. McCormick (15 Mins.)
    2. Objectives and Research Plan - F. Pooler (30 Mins.)
    3. Field Facilities - P. W. Allen (30 Mins.)
    4. Meteorology Program - W. B. Johnson, Jr. (30 Mins.)
    5. Atmospheric Chemistry Program - A. P. Altshuller (30 Mins.)
    6. Emissions Inventories - J. R. Hammerle (30 Mins.)
    7. Health and Welfare Effects - F. Abel (30 Mins.)
  - B. Metropolitan Meteorological Experiment (METROMEX): (Supported by the National Science Foundation, Atomic Energy Commission, Environmental Protection Agency and the Illinois State Water Survey)  
W. Lowry, Program Coordinator, and R. Semonin, Illinois State Water Survey - (1 Hour 15 Mins.)
  - C. Fate of Atmospheric Pollutants Study (FAPS): (Supported by the National Science Foundation)  
J. Lodge, National Center for Atmospheric Research (30 Mins.)
  - D. Department of Transportation Study  
R. Underwood, Department of Transportation (15 Mins.)

SECOND DAY

2. LENINGRAD PROGRAM: Presentation by the Soviet Union

Provisional Agenda

US-USSR Environmental Agreement

1st Meeting, Working Group on Air Pollution  
Modeling and Instrumentation

Washington, DC

THIRD DAY

- A. Instrumentation and Methodology for Monitoring Air Pollutants
  - 1. Introduction
    - G.B. Morgan (5 minutes)
  - 2. State of Art of Instruments for Measuring Air Quality
    - S.D. Shearer (30 minutes)
  - 3. Appraisal of State of Art from Industries Point of View
    - C.E. Matthews (15 minutes)
  - 4. Calibration of Field Instruments
    - F. Burmann (15 minutes)
  - 5. Laboratory Instruments
    - T. Hauser (15 minutes)
  - 6. Research Instrumentation and Methodology
    - A.P. Altshuller (30 minutes)
  - 7. Aerosol Measurements
    - W. Wilson (10 minutes)
- B. Instruments and Methodology for Monitoring Sources
  - 1. Stationary Sources
    - J. Nader (15 minutes)

2

2. Mobile Sources

J. Sigsby (15 minutes)

AFTERNOON (THIRD DAY)

Soviet Union presentation

END--sharply at 4:30PM to catch 4:30PM flight to RTP.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
RESEARCH AND MONITORING

*9/10/73*  
*shy*

SUBJECT: Project Proposals for the U.S./USSR Working  
Group on Control of Air Pollution Sources

FROM: R. Harrington & K. Jones, Working Group Co-Chairman

TO: Council on Environmental Quality

THROUGH: Deputy Assistant Administrator for Research  
Office of International Affairs

Enclosed are the writeups which represent the two components of the overall U.S./USSR project relating to the control of pollution sources, these being the control of stationary and transportation sources.

Although the two topics involve a different set of people on the U.S. side (and probably will on the Russian side), we will (1) travel to Russia together, (2) hold joint sessions at the beginning and at the end of our visit there and (3) generally try to set up similar protocols in the conduct of the exchange program as it evolves.

It is proposed that the first meeting to implement these programs be held during March 26 through April 4, 1973.

The principal activities and costs for the stationary sources and transportation portions of the programs are as follows:

<u>PROGRAM</u>	<u>FY 73</u>	<u>FY 74</u>	<u>FY 75</u>	<u>FY 76</u>	<u>FY 77</u>
Stationary Source					
Sulfur Oxide Control					
Particulate Control	22.5	22.5	22.5	22.5	22.5
Transportation Source	5.5	11	22	16	22

The estimated costs for FY 1973 activities can be funded within the current budget.

*RE Harrington*  
R. E. Harrington

*Kay H. Jones*  
Dr. K. H. Jones

Enclosure



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Dr. K. H. Jones

Enclosure

STATIONARY SOURCE POLLUTION CONTROL TECHNOLOGY

I. Composition of Working Group

As requested by CEQ, no formal appointments have been made to the working group on Industrial Pollution Control. Because of the obvious need for participation of certain groups, however, certain specific recommendations for the composition of the working group are being made. Preliminary appointments are as follows:

1. U.S. Government Agencies

- a. Environmental Protection Agency -- Dr. J. K. Burchard, Acting Director, Division of Control Systems
- b. Tennessee Valley Authority -- Mr. A. V. Slack, Chief, Engineering Department, Division of Chemical Development
- c. Office of Coal Research

2. Industry

- a. Engineering Consultant -- P. W. Spaite

II. First Meeting of the Working Group

The proposed date of the first meeting, which will be in the USSR, is March 26-April 4, 1973.

The attached proposed agenda is as specific as possible at this time. Prior communications with the Russians indicate that the proposed facilities exist but we do not know their exact location.

III. Proposed Agenda of Cooperation

The Russians have already expressed a high level of interest in cooperating in each of the following specific areas. (See the attach USSR proposal)



1. Sulfur Oxide Control

A. Flue Gas Desulfurization is one of the principal near-term approaches to SO<sub>2</sub> control and will be given top priority. Our specific objective will be to assess the status of their flue gas desulfurization projects and to identify how best to interface with their program. Depending on the outcome of this investigation, we may request reports, propose to develop a joint test program or suggest an exchange of visits by experts in the specific process. The processes likely to be of greatest interest to both sides include the limestone scrubbing, magnesium oxide scrubbing, cyclic ammonia, double alkali, regenerable alkali scrubbing processes, and possibly the catalytic oxidation process. It is our understanding that full-scale plants are in operation using the magnesium oxide and lime/limestone scrubbing processes. We would like to visit these facilities. It is highly likely that one or more of these processes will require detailed follow-up studies calling for a follow-up visit by a U.S. team.

In the case of each of the above processes, EPA has an ongoing program which will serve as the source of information to our USSR counterpart. We will offer information from these programs in the form of reports, program reviews with project personnel and contractors and if they wish, we will offer to host an English-speaking USSR scientist to participate with our staff directly on the project or projects of interest.

B. Combustion Research--Programs in this area include ongoing EPA research in fluidized bed combustion, catalytic combustion and combustion

research and modification to control nitrogen oxides. A similar cooperative program to the one described for SO<sub>x</sub> control is anticipated in this area. A different technical team would be involved in any detailed test program and data exchange activities. A symposium tentatively scheduled for early FY 1974 can be scheduled to coincide with the flue gas desulfurization symposium to provide a focal point for USA-USSR technical interaction.

C. Clean Fuel--We understand the USSR has developed residual oil low BTU gasification coupled with fuel gas desulfurization to the point of applying it on a full-scale power plant. Other areas of potential interchange include mechanical coal cleaning, coal gasification and high temperature fuel gas desulfurization. Work in this area is of considerable interest to both EPA and the Department of the Interior (DOI). The objective, as in the case of sulfur oxide desulfurization, would be to assess the status of the USSR technology and develop a complementary program. Because of their strong interest and responsibility in this area, we will solicit extensive involvement by DOI especially OCR, for this team. If the USSR has the technology that has been reported, it would be useful to try to promote a technology symposium in the USSR in early FY 74. This possibility will be explored if it seems appropriate.

## 2. Particulate Control

A. Fine Particulate Control is one of the principal areas of interest for possible USA-USSR cooperation in air pollution control technology. It overlaps the problem of trace material control since much of the trace material pollutants exist as fine particulates. The technology is in its infancy, however, so that the interface will probably be in the more

fundamental research areas rather than in areas of advanced development or demonstration. The expertise for this area will likely include strong representation from the academic community. A symposium is planned by EPA in this area for early FY 74 which will provide a key opportunity for information exchange.

B. Ice Fog Control may well be an area where the US can realize more technology return than outflow. This problem is serious in some Alaskan communities and Northern regions of the US and Canada. The exchange program can be undertaken by the team charged with the fine particulate control program. Details of how this program can best be arranged must await further discussion with our USSR counterparts.

The principal mechanisms of cooperation will include:

- (1) Visit by working group and specific technical team.
- (2) Exchange of reports, data, and correspondence on specific projects.
- (3) Organized symposia.
- (4) Hosting or assigning scientists on site to participate in research activities.
- (5) Possible exchange of developed technology (process or equipment designs, specifications, operating procedures, etc.)

Each will be explored for use as appropriate. Figure I summarizes the proposed program and schedule for stationary source control technology. Clearly, each activity will be subject to revision depending on the interest and status of programs in the USSR.

#### IV. Involvement of Private Organizations

The areas of sulfur oxide control and particulate control

as implied by the USSR proposed program covers several specific topics.

some of which are only slightly related. For efficiency in covering these areas, it is planned that the members of the working group will be selected to represent the spectrum of expertise and organizations needed to properly cover the subject areas. At present, these areas are envisioned to include the following:

- (1) SO<sub>2</sub> Control - Clean Fuels
- (2) SO<sub>2</sub> Control - Combustion
- (3) SO<sub>2</sub> Control - Flue Gas Desulfurization
- (4) Particulate Control - Fine Particulate (including Ice Fog)
- (5) Particulate Control - Trace Pollutants

A major objective of the working group in its initial meeting with the Russian delegation will be to select and detail the specific projects to be pursued. Subsequently, the selected project areas will be pursued under the guidance of a responsible lead working group member. Each lead working group member will be supported by a US team of experts which has also been constituted on the basis of their backgrounds, expertise, and their ability to contribute directly to the program. Examples include contractors, researchers from industry, universities as well as EPA project officers or other Federal agencies actively working in the area. Their services will be necessary to the providing of information and data assessment of material received from the USSR and for direct technical interface with the USSR counterpart on the project. Figure II shows the proposed organization with recommended lead members where identifiable. Table 2 is a list of organizations that could be considered to participate in this program. The list has been assembled on the basis of the known ability of

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specific people within the organization to constructively contribute. No formal assignment of members have yet been made, however.

A probable schedule for US-USSR activities is displayed in Figure I.

#### Program Cost

The principal program costs to EPA will be travel for the EPA representatives and the support of USSR personnel on long-term visits in the USA. (It is assumed that each country will pay travel costs for their personnel to and from respective visits). A second significant cost item will be salary for visiting scientists in the USA. Table 1 summarizes our best estimate of the cost for the proposed program for FY 1973. This estimate probably exceeds actual requirements since it is unlikely that two USSR scientists will be assigned in the USA in FY 73 as has been assumed.

Costs of this amount can be borne by EPA as a part of the respective project costs. It has been assumed that most of the non-EPA participants will assume the costs for their own travel and expenses.

Estimates of program costs for FY 74 and FY 75 are projected at the same level as for FY 73.

V. Public Relations Plan

1. News Release planned at time of U.S. Team trip to USSR
2. Technical press release by EPA upon U.S. Team return to U.S.
3. During USSR Team visit to USA:
  - a. News Release
  - b. Press conference with USSR delegation  
(if delegates agree)
  - c. Technical press representative invited to  
attend symposia

Cost Estimate (EPA)

Consistent with guidelines provided, it is assumed that there will be no additional budget for this program. Since most activities are already in the EPA work plan, however, the major additional cost will be travel and support of EPA-sponsored team members (USA and/or USSR). The estimated cost for the proposed program is as follows:

Flue Gas Desulfurization and Combustion Control: (FY 1973)

Working Group travel to USSR, Feb. 1973 (3 Men)	\$ 5,000
Information Exchange and Translation	1,500
Support of USSR Scientist (1 Man for 3 Months)	<u>6,000</u>
	\$12,500

Clean Fuel:

Information Exchange and Translation	<u>1,500</u>
	\$14,000

Fine Particulate and Trace Material:

Information Exchange and Translation	1,500
USSR Scientist at RTP (1 Man for 3 Months)	6,000
USA Scientist in USSR (1 Man for 6 Weeks)	<u>1,000</u>
	\$8,500

TOTAL \$22,500

Estimates of program costs for FY 74 and FY 75 are projected at the same level as for FY 73.

TABLE 2

List of Possible Participating Organizations

This list has been assembled based on known talent capable of contributing to the USSR-USA Cooperative Program. Individuals have not yet been contacted to ascertain their interests or availability to contribute.

Federal Organizations

EPA    CEC  
DOI    OST  
TVA

Private Organizations

Consultant	API
ESSO	Contractor, EPA
Research Cottrell	Contractor, EPA
EEI	

Universities and Non-Profit Research Organizations

MIT  
Battelle Memorial Institute  
Stanford Research Institute  
Southern Research Institute



PROPOSED AGENDA FOR STATIONARY SOURCE ACTIVITIES

Mar. 24-25 Travel USA-USSR

Mar. 26 (AM) Protocol Visits/Meetings

(PM) Meet with USSR Working Group to finalize agenda  
and make travel arrangements

Mar. 27-28 Discuss/develop cooperative program in following areas:

- flue gas desulfurization
- clean fuel
- combustion technology
- fine particulate control
- ice fog
- trace materials control
- other items of interest that USSR  
may wish to include or that develop during meeting

Mar. 29-30 Travel in USSR to visit selected facilities. Probable  
candidates:

- limestone scrubbing process
- magnesium oxide scrubbing process
- other desulfurization pilot plants or full-scale plants
- coal/oil gasification plants with emphasis on fuel  
gas desulfurization
- laboratories or facilities research fluidized bed  
combustion and/or catalytic combustion
- NO<sub>x</sub> research facilities
- fine particulate research facilities
- ice fog (or other arctic research) control facilities
- trace (potentially hazardous) material control

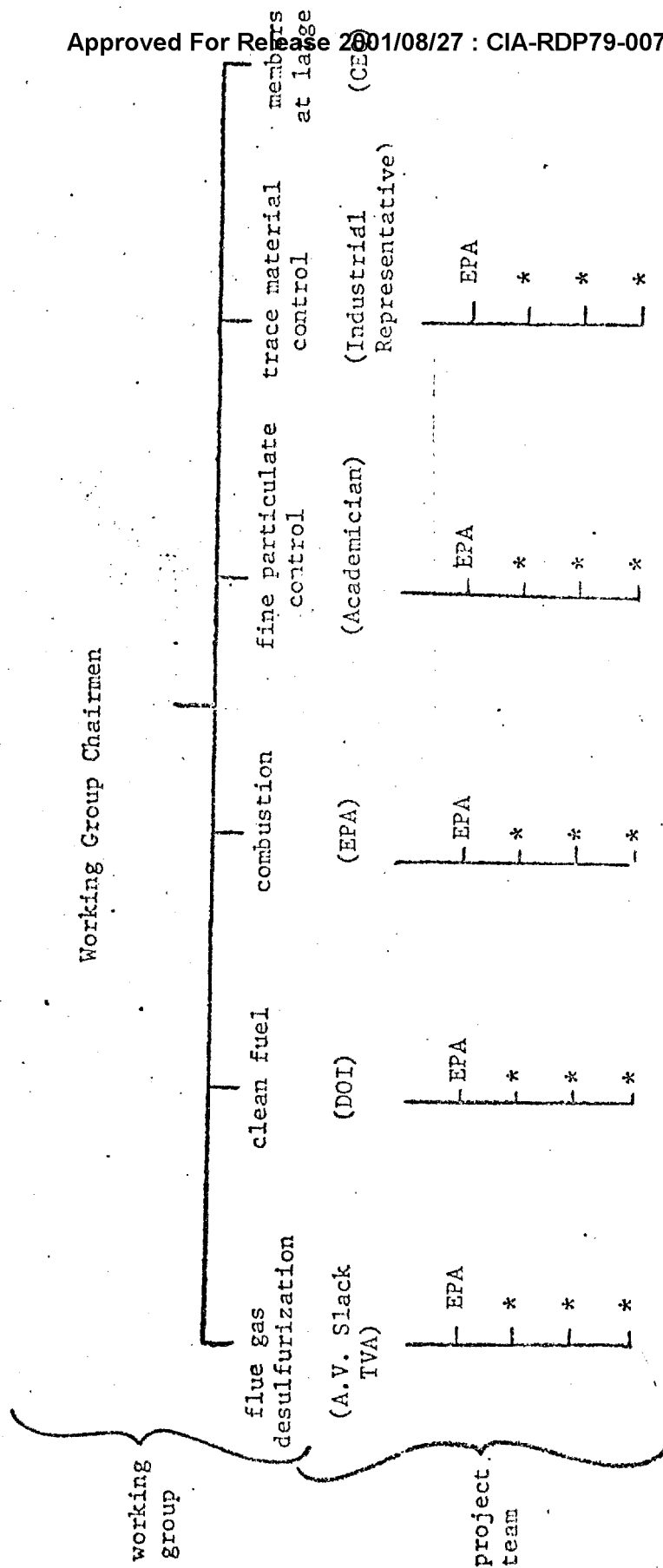
Mar. 31 Travel

Apr. 2-3 Continue visit of USSR research/demonstration facilities

Apr. 4 Return to Moscow for summary meeting

Apr. 5-6 Return to USA

FIGURE II



\* to be selected as appropriate from industry, universities, other Federal organizations (SEE Table 2 for candidate organizations)

FIGURE 1

Project

Activity

blue gas  
desulfurization  
&  
combustion

(1) VSD (2) (3) (4)

information exchange (reports, data, etc.)

USSR scientist at RTP

lean fuel

(1) (2) USSR (4) (3)

information exchange

fine particulate  
&  
trace material  
control

(1) (2) VSD (3)

information exchange

USSR scientist at RTP

US scientist  
to USSR

FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV

(1) Working Group Visit USSR

(3) USSR Team Visit USA Facilities

(2) Symposium

(4) USA Team Visit USSR Facilities

THE FIELD OF ENVIRONMENTAL PROTECTION

FIRST SESSION

Moscow, September 18-22, 1972

Problem I: AIR POLLUTION  
: USSR Proposals

Subject: Gas purification and technological procedures  
preventing air pollution

I. Removal of sulphurous anhydride from smoke of power stations  
using solid and liquid fuels

Purification of vast amounts of smoke containing solid wastes and moisture from sulphurous anhydride is at present the most urgent task in the general problem of the air pollution control. The proposed purification methods developed by USSR and US specialists raise to some extent the cost of generated electric power. Joint development of new techniques and improvement of the current ones, in particular the development of optimum equipment as well as getting marketable products (sulphuric acid, liquid sulphurous anhydride, sulphur, ammonium sulphate etc.) would considerably increase the trapping efficiency and reduce the capital investments and maintenance expenditures.

The following program is suggested for cooperation:

- (a) Development of technology and equipment for ammonia-cyclic method.
- (b) Development of technology and equipment for magnesite method.
- (c) Limestone method.
- (d) Alkaline-aluminate method.
- (e) Stone-Webster-Ionics process (sodium sulphite-bisulphite with electrolytic regeneration).

(f) Modified chamber method.

(g) Fuel combustion in pseudoliquidified limestone layer.

(h) Limestone blasting into a furnace.

The following methods are suggested by the USSR for cooperation:

(a) ammonia-cyclic;

(b) magnesite.

Form of cooperation: joint development of both technology and equipment, information exchange and visits to the Research Institute "NIIOGAS" in 1973-1975 to get acquainted with laboratory and experimental units;

(c) Limestone.

Information exchange and visits to the Research Institute "NIIOGAS" in 1973-1975 (laboratory and experiment 1 units).

## II. Removal of solid impurities from smoke

The following subjects are suggested for cooperation:

1. Gas purification by electric methods.

Form of cooperation:

(a) Familiarization with laboratory units, experimental and industrial electric filters, trapping high-obmic dusts.

(b) Familiarization with the equipment and methods for investigating electric fields of coronal discharge of electric filters.

(c) Familiarization with the equipment and methods for investigating the electric gas purification processes at pulse coronal discharge as well as pulse power supply.

2. Wet gas purification.

3. Gas purification by cloth filters.

Form of cooperation:

- (a) Familiarization with laboratory, experimental - industrial equipment used for investigation of cloth filtering properties for high temperature gas purification from highly dispersive soot.
- (b) Familiarization with industrial units for trapping highly dispersive soot.
- (c) Scientific and technical information exchange.

4. Development of improved methods for determining concentration and dispersive content of dust in gas flow.

III. Liquid and solid fuel desulphurization by thermochemical methods

- 1. Methods of direct hydrodesulphurization of oil residues with high sulphur content to obtain boiler fuel with low sulphur content.
- 2. Application of clear gasolene and reducing sulphur content in diesel oil.
- 3. Pyrolysis of liquid and solid fuels (black oil with high sulphur content, coals and shales) and its application in energetics.
- 4. Economical methods for gasification of solid sulphuric fuel and gas purification from sulphuric compounds.
- 5. Solid fuel hydrogenation.

The form of cooperation is to be determined during the joint discussion of this problem.

IV. Intracycle desulphurization of ash fuels with high sulphur content at power stations by pre-gasification method

The following program is suggested for cooperation:

- 1. Combined development of both processes and equipment for gasification of black oil with high sulphur content producing gas of higher calorific value and its application to vapor-gas and vapor-power cycles.

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2. Study and development of advanced power cycles using purified products of fuel gasification.

Form of cooperation:

- (a) exchange of information on research and development;
- (b) familiarization with experimental equipment.

USSR Trust on Gas Purification  
and Dust Trapping

Expert: Anikeyev V.A.

THE PROPOSED PROGRAM FOR COOPERATION ON  
THE CONTROL OF THE TRANSPORTATION SOURCES  
OF AIR POLLUTION

1. Composition of the Working Group

(a) EPA: Dr. Kay Jones, Chairman; Mr. Eric Stork;  
Mr. John DeKany; Dr. Louis Schoen

DOT: name yet to be designated

Sub-elements of the project will require participation of Agencies such as DOT, NASA, AEC and DOI. DOT is the predominate interface among these agencies and should have representation on the main project working group. The other agency inputs can best be handled through the sub-element project leaders as the program evolves.

(b) Private Sector: It is difficult at this time to assess the efficacy of involvement of the private sector in this project. Several possibilities are at hand, however. The Air Pollution Advisory Committee of the Coordinating Research Council (AMA and API) with whom EPA has been conducting joint research could provide the representation of the industry. The Chairman of APRAC appears to be the most likely candidate and his participation has been discussed informally.

2. First Meeting of Working Group

(a) The first meeting is scheduled for Russia early next year. The transportation pollution experts will travel with the stationary source experts. It is recommended that the first meeting be scheduled for the latter part of March preferably the last week for approximately 6-8 days.

(b) The U. S. participants will be the above named Working Group members.

(c) No specific sites for visits can be spelled out at this time; however, visits to research facilities and site locations where auto pollution is a problem would be most appropriate.

3. Agenda for Cooperation

(a) Objectives

The overall objective of this project is to establish and maintain an active program interface between agencies in



the U. S. and Russia which are responsible for the prevention and control of air pollution from transportation sources.

Based on the overall objective of this bilateral effort, e.g., to knit the scientific communities of the U.S. and U.S.S.R., this project provides the unique interface where an immediate dialogue with our Soviet counterparts can be established because of the intense Soviet interest in the subject area. Though in the short term the information transfer to the Soviets will predominate, during the early stages of the project it will act as a catalyst to other more long term interests both in this project area as well as the others currently under consideration. In addition to the fundamental program involving the technical interface the joint understanding on international matters such as SST standards, universal motor vehicle exhaust standards will tend to coalesce world thinking on such subjects.

(b) Goals

The short term goal (first year) will be to establish counterpart contact between the program officials in the two countries. From this initial contact protocols can be established as to what specific areas of activity are of mutual interest as well as determine the best methods for collaboration in these areas. The longer term goals will encompass the dynamic exchange of information, exchange of technical experts and possibly collaborative projects. Dynamic information exchange means the selective preparation, translation, publication, and distribution of documents relating to the project area.

The overall topic of Air Pollution from Transportation Sources encompasses several sub-topics or elements which form the base of the overall project. The sub-program elements in which we feel the Soviets are interested and would expect to conduct exchange activities are:

- ✓(1) motor vehicle pollution control
- (2) control of non-highway vehicle sources, i.e., aircraft, construction equipment, rail transport, etc.
- (3) development of advanced power systems for motor vehicles
- ✓(4) transportation planning for minimum environmental pollution impact

(5) fundamental research, i.e., emissions characterization, combustion, etc.

The major focus from the Russian point of view is item (1) based on the comments by the Russian exchange delegation during their visit this past summer. This sub-topic includes (1) control technology for conventional internal combustion engines, gasoline and diesel fueled, (2) emissions measurement, (3) surveillance and certification, (4) inspection and maintenance, and (5) standards promulgation. Items (2) and (3) were also significant points of interest to the Russians. From the U. S. point of view, based on the EPA visit to Russia last winter, items (4) and (5) are the more specific areas of interest.

(c) Facilities and Personnel

Most of the activity in this program will focus on the EPA Mobile Sources Control Laboratory in Ann Arbor, Michigan, and will engage the EPA personnel at that facility. Other governmental research facilities such as DOT's Transportation Research Laboratory at Cambridge, Massachusetts, and DOI's Automotive Laboratory at Bartlesville, Oklahoma, will probably be engaged. Other research facilities in the private and academic sectors will also get involved depending upon the finalized program for cooperation. Key technical staff of all of these facilities would get involved in the program to varying degrees.

(d) Project Budget

In order for this project to succeed a definite commitment of resources and manpower will be required. Resource requirements can generally be broken down into: (1) foreign travel costs; (2) manpower, time in travel and supportative staff time in the U. S.; and (3) administrative costs, i.e., translations, publications, etc. The following estimates (Table 1) are made assuming that a moderate program is established over the course of the next five years which in the main relates to exchange of expertise and technical information. Specific resources for any collaborative projects are not included. In this latter case it is assumed that such projects are of sufficient merit so as to be funded in lieu of or as a part of unilateral domestic program projects. The attached table gives the breakdown on the estimated resource requirements for the conduct of this project. This estimate is very preliminary and will have to be adjusted as the project evolves after the first working group meeting in the U.S.S.R. early next year.

The manpower funds cited for the most part will come from existing resources within the Office of Air and Water Programs. Travel costs incurred by working group and sub-working group members from other Federal agencies will be borne by the agency involved. Travel by the private sector will be borne by EPA.

(c) Summary

There do not appear to be any major problems which could preclude the establishment of this program. The Soviets have a great deal to gain by actively pursuing this interface and should readily accept the concepts set forth above.

4. Involvement of Private Organizations

The involvement of the Coordinating Research Council described in (1(b)) will automatically involve the industries who participate in the CRC/APRAC activity. It must be clearly understood, however, that this activity does not include any pollution control hardware developments programs and hence the CRC's participants should not be construed as a technology transfer mechanism.

Public Relations Plan

The major publicity will be the press and media coverage received from exchange visits, speciality conferences and joint project announcements. The publications and extensive distribution of bilaterally developed technical reports will yield international recognition among the technical community, both private and governmental, which deals with the air pollution problems related to transportation.

Combined Five Year Resource Projection for U.S./U.S.S.R.

Bilateral Project on Air Pollution Control of Transportation Sources

Item	Resource Requirement by Fiscal Year*									
	73		74		75		76		77	
	Manp.	\$	Manp.	\$	Manp.	\$	Manp.	\$	Manp.	\$
1. Foreign Travel										
a. working group**	6	4.0			6	4.0			6	4.0
b. experts			5	4.0	5	4.0	5	4.0	5	4.0
2. Administrative										
a. trans. & pub.***		1.0		5.0		10.0		10.0		10.0
b. misc.****		0.5		2.0		4.0		2.0		4.0
	6	5.5	5	11.0	11	22.0	5	16.0	11	22.0

\* Manpower is expressed in man-weeks, \$'s in 1990's.

\*\* Assumes one working group meeting per year alternating between countries, i.e., working group consisting of four U. S. representatives: 4 - EPA, 1 - DOT, and 1 - industry.  
NOTE: This could be doubled if meetings held on semi-annual basis.

\*\*\* transportation and publications = \$10/page for Russian and English versions

\*\*\*\* Also includes domestic travel, protocol translation services, etc.

1. Composition of the working group

There are in this project four separate sub-projects, each of which will require a different sub-group. The chairmen of the sub-groups will constitute the working group; additional members of the sub-groups will be added to the working group to meet particular short-term needs.

Working group members:

John L. Buckley, Chairman  
Mark A. Pisano  
Donald I. Mount  
Arnold B. Joseph  
Ralph C. Palange

- (a) Interested U.S. agencies and private organizations are listed separately under each sub-group.

(1) Studies and Modeling of River Basin Pollution

Mark A. Pisano, Chairman (EPA); Department of Commerce; NOAA. (In view of apparent disparity between original proposals of U.S.S.R. and U.S.A., and language of final agreement, no final assessment of interested agencies is possible at this time. We propose to clarify this matter at the first meeting of the U.S.-U.S.S.R. working group - see Annex A)

- Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3

Dr. Donald J. Mount, Chairman  
Dr. Richard Schettger (Bureau of Sport Fisheries and Wildlife,  
Department of the Interior)  
William Klein, Ohio River Valley Water Sanitation Commission  
Dr. Peter Doudoroff, Oregon State University

(The members suggested have not been appointed.)

(4) Prevention or Treatment of Discharges

Ralph C. Palange, Chairman (EPA)

A large number of Federal agencies and private groups will be interested. As specific activities develop under the agreement, appropriate agencies and individuals will be asked to participate.

2. First meeting of the working group

The agreement calls for a meeting with the U.S.S.R. during the first quarter of 1973. We would suggest the latest possible time in early 1973 -- late March or early April. We propose that the first meeting be devoted to:

- (1) Defining and jointly planning future program activities (including detailed arrangements for a Soviet visit to the U.S.A. in early 1973) on River Basin Management (one U.S. participant).
- (2) For Management of Lakes and Estuaries, working out a detailed plan for a visit by expert group to Lake Baikal in summer of 1973. A response to the items suggested in the U.S.S.R. proposal will be available at the time (one U.S. participant).

- (3) For Education of Scientists, we propose a discussion to work out an exchange or expert group visits. We are prepared to invite a U.S.S.R. group to visit the U.S. in April-May, 1973. (Two U.S. participants, Dr. Mount and Dr. Doudoroff, Oregon State University, who is fluent in Russian)
- (4) For Control Technology, working out detailed plans for future activities, including exchange of visits, literature exchange, and possibly planning for a water pollution control trade fair (two U.S. participants).

### 3. Agenda for Cooperation

#### Sub-project 1. Studies and Modeling of River Basin Pollution

- (a) Objective - To integrate modeling and monitoring methodologies into systems that permit accurate forecasting of water quality, and that can be expanded into water quality management plans, including cost effectiveness determinations; and demonstrate the applicability of such systems on rivers and other water bodies in both countries. Both the U.S. and the U.S.S.R. are committed to water body management that results in net social gain; the proposed cooperation is aimed at applying existing knowledge to achieve that goal (and to understanding where existing knowledge is so deficient the goal cannot be reached).
- (b) We propose to re-define the sub-project at the first working group meeting. Further steps will depend on this re-definition. Certainly, at least one Soviet delegation visit to the U.S. in the third or fourth quarter of calendar 1973 will be proposed.
- (c) U.S. facilities and personnel to be involved will depend on clear agreement on the sub-project. The Delaware River Basin Commission, ORSANCO, TVA, as well as EPA and NOAA will be involved.



- (d) Initial costs for the U.S. will include travel for one EPA individual to the U.S.S.R. for one trip in early 1973. \$2,000 (To be provided by program office)
- (e) Uncertainties and problems. As noted elsewhere, the original U.S. and U.S.S.R. proposals have been so modified by the final agreement that the exact nature of the cooperation is not clear. It is presumed that face-to-face discussion at a working group meeting will permit working out satisfactory arrangements.

Sub-project 2. Protection and Management of Lakes and Estuaries

- (a) Objective - To protect the most precious lakes in the world from man's effects by pollution, development and resource utilization so as to assure an inheritance for future generations.

The world's two largest bodies of surface water repose in the U.S.S.R. and in the U.S.A. -- Lake Baikal and the Great Lakes. Both lake systems are threatened by man's activities, primarily discharge of municipal and industrial wastes which cause unnatural, imbalanced ecological systems, and land development in the drainage basin which changes the physical-chemical factors governing the lakes' ability to foster life.

...tive details the development  
...in terms of their  
physics, chemistry, biology and geology. Here, the U.S. has  
made a good start on the Great Lakes. The Lake Survey of NOAA  
has developed an understanding of the water levels and mass  
relationships among the lakes. NOAA is presently studying the  
circulation system of Lake Ontario and its dynamic interactions  
with the atmosphere. EPA has studied the circulation and  
current systems of Lakes Erie and Michigan and, to a lesser  
degree, Lake Superior. EPA presently is studying the cause  
and effect relationships of nutrients and algae in Lake Ontario.  
University scientists in Michigan, Minnesota and Wisconsin  
comprise a core of expertise on the cycling of nutrients and  
pollutants among water, sediments and lake biota. Rudimentary  
predictive models of the cause and effect relationship of  
nutrients and productivity for Lake Erie have been formulated  
and are being further developed and tested. Considerable work  
of a similar nature has been done on Lake Tahoe and perhaps our  
understanding of that system warrants more confidence.  
There is considerable latitude in this area of scientific  
study for cooperative exchanges with the U.S.S.R. in terms of  
methodology -- lab and field -- and in terms of scientific  
understanding of mechanisms and processes affecting the fate  
and effect of pollutants.

The next step in protecting these precious lakes is to specify [agreed-upon] water quality criteria (mpc's) vis-a-vis uses to be made of the water. The basis for criteria lies largely in the results of bioassays and biotoxicological studies. EPA has a strong program toward this end. Considerable interchange with the U.S.S.R., especially in methodology, and extrapolation of lab results to field situations, is possible. One of the final technical steps toward the objective is the preparation and publication of guide books describing the rationale, procedures and milestones for a system to protect the lakes.

(h) Specific dates for exchanges:

March-April, 1973. Visit of U.S.A. project and sub-project leaders to the U.S.S.R. to negotiate the size, scope, and details of the U.S.-U.S.S.R. visit exchanges.

(One or two Soviet scientists could be invited to attend the Annual Meeting of the International Association of Great Lakes Research at Sawmill Creek, Ohio, on April 18-20, 1973, even though this would precede firm plans for cooperation.)

July-August, 1973. Visit of U.S. team of scientists to Lake Baikal to review the status of technical knowledge, with respect to pollution, ongoing research, and studies planned for the near future. (10 people, 2 weeks)

September-October, 1973. Visit of U.S.S.R. scientists to U.S. At Grosse Ile, to review Lake Erie pollution studies, including sources and their measurement, field trip on lake, visit to auto manufacturing facility. Review IFYGL studies and development of comprehensive models; Lake Survey Center and data management facility. To EPA lab at Duluth, Minnesota, to review biotoxicological program; field trip on Lake Superior. To Lake Tahoe, to review results of advanced waste treatment and studies of effects on Lake Tahoe and IndianCreek Reservoir. (10 U.S. people to travel with U.S.S.R. team, 2 weeks)

January-March, 1974. Meeting (location undecided) with U.S.S.R. to deliberate on future exchanges -- specific scientists, laboratories, field programs and possibly the further joint development of a guide book for the preservation of our precious lakes.

(c) U.S. facilities and personnel to be involved:

- 1) Sub-group chairman on working group visit to U.S.S.R. -  
1 EPA representative
- 2) Visit to U.S.S.R. - 5 EPA representatives and 5 EPA consultants
- 3) Visit of U.S.S.R. to U.S.A.
  - i) EPA Grosse Ile lab - staff at Grosse Ile and regular representatives
  - ii) NOAA - Lake Survey Center

iii) EPA - Duluth lab

iv) University of California - Lake Tahoe

(d) Costs would be limited to

Working group visit to U.S.S.R., spring of 1973  
1 man \$2,000 EPA

Summer visit to Lake Baikal - 10 men \$25,000 EPA

No expenses anticipated for U.S.S.R. travel to U.S.

(e) Uncertainties and problems. No major problems anticipated.

Sub-project 3. Effects of Pollutants upon Aquatic Ecological Systems and Permissible Levels of Pollution.

(a) Objective - To compare the philosophies under which water quality standards are established and the means by which ecological damage is assessed in our two countries; and to exchange data, existing and future, that will result in comparability of water quality protection and avoid unnecessary duplication of toxicity testing and other water quality criteria research.

(b) Specific steps:

March, 1973. Two members of sub-project group participate in working group meeting in U.S.S.R.

We propose that a U.S.S.R. delegation be invited to visit the U.S. in late April and May, 1973 (April 30-May 7 are suggested dates). A detailed itinerary includes visits to Ann Arbor, Michigan (Bureau of Sport Fisheries and Wildlife

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laboratory); Chicago, Illinois (EPA); Cincinnati, Ohio (EPA

and ORSANCO); Columbia, Missouri (Bureau of Sport Fisheries and Wildlife); Portland, Oregon (EPA, Corps of Engineers); Corvallis, Oregon (EPA, Oregon State University); and Duluth, Minnesota (EPA).

A U.S. visit to aquatic toxicology laboratories in the U.S.S.R. in 1973 or 1974 would be arranged on the basis of the March-April 1973 working group meeting and information obtained during the April-May 1973 U.S.S.R. team visit to the U.S.

A formal mechanism for exchange of information on water quality criteria will be worked out. The arrangement will include methods for evaluating effects of chemicals and other environmental stresses, as well as existing and new data from the two countries. A real attempt will be made to include that portion of the literature that does not appear in widely available journals.

To the extent warranted, exchange of professional workers for extended periods will be explored.

(c) U.S. facilities and personnel:

As detailed above: EPA, Bureau of Sport Fisheries and Wildlife, ORSANCO, Corps of Engineers facilities, during U.S.S.R. visit.

(d) Budget:

Two U.S. scientists on U.S. working group visit to U.S.S.R.

in March, 1973.                      \$4,000                      EPA funds

Cost of travel by U.S. scientists to accompany U.S.S.R. group  
in April-May 1973.    \$3,000, to be borne by agencies involved.

1973-74 visit to the U.S.S.R., if arranged, 5 individuals at  
\$2,000 each.    \$10,000.    EPA funds for its officials and con-  
sultants. Other agencies would provide their own travel funds.

(e) Uncertainties and problems. No major problems anticipated.

Sub-project 4. Prevention or Treatment of Discharges

(a) Objective - To gain specific operational-type technology on  
water pollution abatement techniques. This information will  
form a part of the knowledge base used in developing and  
revising guidelines, regulations, information and reports  
required in the various sections of the new amendments to the  
Federal Water Pollution Control Act.

Initially, activities would be focused, obviously, on the three  
areas specified under Prevention or Treatment of Discharges  
(Water Pollution) in the signed U.S.-U.S.S.R. agreement of  
September, 1972, namely:

- 1) Land disposal of both untreated municipal sewage  
and sludge from municipal treatment systems (in the  
context of municipal waste treatment including land  
disposal; both sides are interested in sludge  
handling and disposal).

2) Reduction of pollution from industrial plants (in the context of industrial waste treatment).

3) Reinjection of water from oil extraction activities.

The "relationship to overall U.S. goals" would be in essence the relationship to mandates in the Water Pollution Control Act, mentioned above.

Possible benefits to the U.S.S.R. would be: provision of technology on various U.S. water pollution effects and abatement techniques. It is anticipated that the benefits to the U.S.S.R. will outweigh those to the U.S. However, it is optimistically believed that specific useful information can be obtained from the U.S.S.R. in each of the three areas.

(b) Specific steps and dates:

Step 1. Between now and the first meeting of the working group, exchange information on the three areas including as much specific information as possible. Information should include treatment technology (for wastes where effects on the environment have been actually demonstrated), and lists of sites where practices exist. In this step, the Water Pollution Control Federation would be used as the "public focus".

- 1) To initiate this step, a letter would be sent to Fedorov (U.S.S.R. coordinator) requesting this information. The letter would include U.S. summary-type reports on each of the three areas and would request Fedorov to provide similar U.S.S.R. reports prior to meeting. The U.S. reports to be provided are existing reports, not ones specially prepared for this purpose.



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- 2) Assistance of the Science Attache in obtaining information may be extremely useful.
- 3) On receipt of information, EPA programs would evaluate it in comparison with our existing technology and effect of the wastes on the environment. Problems, etc., would be compiled for discussion at the first meeting in the first quarter in the U.S.S.R.
- 4) This step is an essential one preceding the first meeting because we must develop a knowledge base to proceed. It is also suspected that this step may be difficult to implement because the Soviets may not want to send specific information and the information received must be rapidly translated.

Step 2. March-April, 1973. Chairman of the Sub-group attends working group meeting in the U.S.S.R. On the basis of the evaluation performed in Step 1, will discuss present state of knowledge in the three areas, and pursue information on other types of water pollution abatement techniques, where the effects on the environment have been demonstrated.

We will work out the next steps in cooperation and are prepared to propose:

- 1) Preparation of a joint U.S.-U.S.S.R. compendium report summary:
  - a) Current practices in the three areas - include specific sites.
  - b) Demonstration practices in the three areas -

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c) Aims and goals of both nations in the three areas.

U.S. goals would be those expressed in the new water law. (Note: the compendium report would provide the basis for future actions. Each side would be responsible for their own translations and would publish the report in their language. Form of the U.S. report would depend on availability of funds.)

2) Soviet participation in U.S. land disposal conference along with representatives from other countries, probably late in 1973. Preliminary plans for, or advisability of, this conference would be discussed at the first 1973 meeting. See attached proposal.

3) Industrial waste treatment fair/symposium, to express new concepts, during winter of 1973-74, to be held in U.S. or U.S.S.R.. [Interestingly, during the September 1972 trip the Soviets purportedly raised the idea of such a "fair".] Preliminary plans for, or advisability of, this conference would be discussed at the first (March) 1973 meeting. Also see attached proposal.

4) Exchange of visits of technical personnel in selected areas during 1973-74.

(c) U.S. facilities and personnel to be involved:

EPA personnel as needed in (b) above. Depending upon Soviet reaction to U.S. proposals at the March 1973 working group meeting, additional U.S. personnel and facilities will be identified. For the working

- 15 -

(d) Budget:

Participation in March 1973 working group meeting in the U.S.S.R.

\$2,000 - EPA.

One additional "expert" trip probable, to include 5 EPA individuals  
at \$2,000 each           \$10,000

Additional needs not clear at this time.

(e) Uncertainties and problems:

- 1) The translation problem is especially critical  
between now and March 1973.
- 2) It is likely that the Soviets will accept this  
approach, except that their response during Step 1  
may be quite meager.

4. Involvement of private organizations

Each sub-project involves private organizations. These have been noted  
in the detailed descriptions under Item 3 and under Item 1.

5. A public relations plan

Each visit, meeting, symposium would be preceded by a general press  
release to the media, trade and scholarly press, as appropriate.

After each visit, meeting, symposium, a press release would be issued  
describing briefly the results of the activity.

In addition, the reports resulting from these activities will be  
distributed or made available to the public. Press releases would announce  
their availability.

SUMMARY

Plan working group meeting in the U.S.S.R. in March, 1973. This will be a planning session only and thus does not require field trips. To the extent that there are points of interest pertinent to any of the sub-groups close to where the meeting is held (presumably Moscow), we would welcome visits to them as part of the agenda.

We suggest 4 working days for the meeting. First day of general meeting concerning entire area. Second and third days, individual meetings on sub-projects. Fourth day, general meeting to formalize arrangements.

Plan to issue invitation for one or two U.S.S.R. scientists to attend International Association of Great Lakes Research meeting, April 18-20, 1973, at Sawmill Creek, Ohio.

Plan visit to Lake Baikal by ten-man U.S. delegation in summer of 1973. Under sub-project 2.

Plan to invite U.S.S.R. delegation to visit U.S. institutions April 30-May 7, 1973. Under sub-project 3.

Plan to invite U.S.S.R. delegation to visit U.S. institutions September-October, 1973. Under sub-project 2.

Propose discussion leading to two symposia under sub-project 4, perhaps both in U.S.

Propose re-definition of sub-project 1, followed by invitation to Soviet group to visit U.S.

FUNDING

It is anticipated that the principle, "sending side pays", will be followed in all items discussed here. It is further anticipated that EPA will fund travel of its officials, and of consultants it invites to participate. Travel of officials of other agencies, and of industrial and private groups other than EPA consultants, will be funded by those traveling in most instances.

Summation of estimated expenditures on travel to the U.S.S.R.:

Working group	6 members @ \$2,000	\$12,000	EPA
Sub-project 2	10-man delegation to Lake Baikal	25,000	EPA
Sub-project 3	5-man visit	10,000	EPA
Sub-project 4	5-man visit	10,000	EPA
		<u>\$57,000</u>	

(Sub-project 1 - no definite plans for travel to U.S.S.R.)

ENVIRONMENTAL PROTECTION AGENCY  
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ANNEX A

Water Planning Division

DATE: DEC 4 1972

Program for Fulfilling Water Requirements of  
Joint U.S./U.S.S.R. Agreement

• Dr. John Buckley, Deputy Director  
Office of Research

Portions of the U.S./U.S.S.R. Joint Agreement on Environmental Protection are not necessarily responsive to the real needs of either country.

One such is the first project under the "Water Pollution" section of the Agreement, entitled "Studies and Modeling of River Basin Pollution." As stated, this project would involve the modeling of a number of river basins in both countries with the end product being an enhancement of both nation's sophistication in the field of mathematical basin models.

Due to the relative sophistication of American mathematical modeling techniques and hardware/software support vis a vis the Russians, the U.S. has little to gain from a modeling project per se. On the other hand, while the Soviets stand to gain quite a bit from a joint modeling project, they seem more interested in acquiring American monitoring technology than in modeling. Once again, this emphasis offers little substantive return for the U.S.

If one accepts the axiom that the program should result in mutual benefit and that it not be a mere public relations exercise, then a more creative interpretation of the language of the agreement is necessary.

Probably the best course is to propose a project on River Basin or Water Body Management - integrating monitoring and modeling methodologies into systems which permit accurate forecasting of water quality, and beyond that, which can be expanded into other areas such as flood forecasting, groundwater supply forecasting, and abatement technique cost/effectiveness determination. A close interpretation of monitoring with modeling activities would allow

the sort of immediate feedback which, on one level, will permit increasing sophistication of the model itself, and on the implementation level, will permit rapid assessment of a specific management strategy.

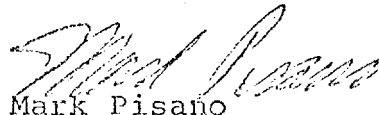
The Water Body Management approach offers several advantages over a more restrictive program.

1. It constructively integrates the Soviet concern for monitoring technology with the original intent of the language of the Agreement and raises both to a new level of sophistication which will also have benefits for the U.S.

2. It permits more intensive interfaces with the other water projects under the Agreement.

3. It can be implemented incrementally, perhaps beginning as an exchange of information on monitoring hardware or modeling methodologies and building from there as resources permit and interest dictates.

Therefore, I would suggest that we plan to expand the scope of the project to include the sort of things which I have discussed above. Moreover, if this is an expansion in the scope of the project, then a planning member on the initial team visiting Russia would be beneficial. If the scope is not expanded then a planning member on the initial visit is not necessary.



Mark Pisano

Acting Director  
Water Planning Division

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Proposal for U.S./U.S.S.R. Cooperation Under the  
U.S./U.S.S.R. Environmental Agreement

Subject : Joint U.S./U.S.S.R. Symposium on Land Disposal  
of Municipal/Industrial Wastes

Scope of Symposium : Symposium would consist of the presentation of U.S. and Soviet papers on experience, management effectiveness and research in the techniques of spreading waste such as through channels, spraying, etc. on large land areas and allowing the waste to infiltrate through the soil, adding water and nutrients to the land covers. Also include experience on ground water infiltration and land runoff.

Papers would describe U.S. and Russia practices in terms of:

- Quality and volume of waste being spread
- Physical facilities and operating procedures at site
- "treatment" processes used such as lagoons
- Soil and topographic characteristics
- Spreading operations
- Quality of effluent after infiltration-or in situ (wells) - efficiency
- Monitoring and Surveillance
- Health effects of land disposal on humans, grazing animals and wildlife
- Runoff transport of pollutants
- Control of aerosols
- Recycling and salvage of wastes
- Applicability during cold weather
- Operational problems
- Institutional (management) arrangements
- Effect on waters
- Aquaculture
- Economics



Reason for Conference: This is a relatively old technique which has recently received national prominence as a possible effective and economical alternative to conventional municipal/industrial treatment systems, for application on a nationwide basis in the U.S. It has been touted as a possible means of achieving a "no discharge" condition - that is, the effluent would be discharged to the land not to the streams. A conference would provide a means to exchange and evaluate operational data to define whether the technique can be used for large volumes of untreated or partially treated effluent.

It is an area of high public visibility both to the knowledgeable public and to the Congress.

The agency (EPA) has tentatively planned a national land disposal conference for 1973, because of the wide concern about the application of this technique. The planned symposium could be broadened to give prominence to Soviet practices in land disposal. The U.S./U.S.S.R. agreement provides an excellent opportunity to enlarge the scope of the conference to obtain Russian data and experience. In "European" Russia, "sewage farms" have purportedly existed for some time. It is reported about 500,000 acres have been devoted to these farms. Detailed data on Russian experiences will be useful for comparison with other data, such as that planned in Michigan, and in operation in Australia. However, it must be recognized that land conditions in the two differ. Land is abundant in the U.S.S.R. Therefore, economics and land use planning will be an important factor in comparing the data.

Timing of Conference : Winter of 1973/1974

Length of Conference : About three days

Location of Conference : In the United States

Funding: Symposium - FY - 73-74. Provided that the United States symposium is held, no appreciable additional funding is anticipated. It is assumed that the "sending side pays."

Before the Symposium : This symposium will be preceded by an extensive exchange of information between the U.S. and U.S.S.R. to define specific types of information and data to be covered and types of representatives to be included.

Following the Symposium: Continued exchange of information and evaluation of data to determine applicability of procedures and development of criteria as to sites and types and volumes of wastes that may be "processed" using land disposal.

Lead Organization : EPA, Office of Air and Water Programs

to assure compatibility of industrial  
wastes with municipal (sewage) treatment  
systems  
charges and financing of industrial treatment  
alternative waste management systems

Emphasis would be placed on presentations of new concepts and  
new practices.

Timing of Conference: Probably three to five days, depending on  
response to call-for papers and state of technology  
in U.S.S.R.

Reason for Conference: Information on in-use industrial waste  
treatment practices are sorely needed for the devel-  
opment/modification of effluent guidelines. The  
agency has determined that the development of these  
guidelines is a No. 1 priority. Effluent guidelines  
describe the degree and type of treatment and the  
permissible volume of effluents that industries  
can discharge into streams.

The fair would be an operational, as opposed to a  
research meeting - defining what processes are in  
use in U.S. and Russia.

The fair/symposium would provide data for use in  
developing/modifying the guidelines. This is an  
area of wide public concern and interest because  
of the volumes and toxicity of industrial wastes  
discharged. Legislation also dictates greatly  
increased action in this area, including  
defining and setting regulations on best practi-  
cable treatment (that is, in general, what is the  
best treatment now in practice) and on the best  
available technology (that is, what is the best  
treatment available for use) - two very difficult  
areas to define.

In turn, U.S.S.R. is concerned about the treatment  
of industrial wastes, primarily in terms of increasing  
productivity and in protecting water resources in  
areas of short supply or over-use.

The fair should also be beneficial to industry  
because it will give them a chance to "show their  
wares." It will also open the door to increased  
contact between U.S. and U.S.S.R. counterparts.

*No additions - (4)*  
*Good list of names - see below*  
*related to Ag/Enviro*  
*our own group*

PROJECT FOR SECTION III OF CEQ AGREEMENT  
POLLUTION RELATED TO AGRICULTURAL PRODUCTION

1. Composition of the Working Group on Agricultural Pollution

a. U.S. Agencies

USDA - S&E - Dr. Fred H. Tschirley (Chairman of Agricultural Pollution Working Group)

USDA - SCS - Mr. Joseph Turelle (Chairman of Subgroup concerned with Wind Erosion and Dessication)

USDA - ARS - Dr. Howard Heggstad (Chairman of Subgroup concerned with Effects of Pollutants on Forests and Plants)

EPA - Dr. Hal Bernard (Chairman of Subgroup concerned with Pollution Caused by Feedlots)

USDA - OPI - John Crowley

b. State organizations

University of Missouri - Dr. B. G. Tweedy (Vice-Chairman of Agricultural Pollution Working Group and Chairman of Subgroup concerned with Integrated Pest Management)

The above individuals with the exceptions of Dr. Tschirley and Mr. Crowley were Chairmen of subgroups listed under Section III of the CEQ Agreement. The Working Groups for the four subgroups are listed in Appendices 1, 2, 3 and 4.

2. First Meeting with the Russian Working Group

- a. It is proposed that the first trip concerned with Pollution from Agricultural Production be a visit to the US by a working group from the U.S.S.R. composed of participants representing integrated pest control, animal waste, wind erosion and the effect of pollution on forests and plants; it is also suggested that the U.S.S.R. working group include an agricultural economist. The proposed dates for the meeting are March 19 through April 8. The proposed itinerary follows:

March 19-21      Beltsville, Maryland - Agricultural Research Service with half a day being used for travel to Raleigh, North Carolina

22-24      Raleigh, North Carolina - North Carolina State University and other points of interest

- 2 -

- 26-27 Texas - Group would divide and one half will visit the Bushland - Amarillo area (Animal Waste and Wind Erosion) and the other half will go to Texas A&M at College Station and possibly the Lower Rio Grande Valley (Integrated Pest Control and Pollution).
- 28 Travel to California
- 29-Apr 3 California - Riverside, Lower San Joaquin Valley and Berkeley
- 4 Travel to Kansas City. Group would divide.
- 5-6 Columbia and Rolla, Missouri (Pest Control and Air Pollution)  
  
Manhattan, Kansas (Wind Erosion and Animal Waste)
- 7 One-half day at Kansas City for group to summarize trip and discuss future cooperative efforts

- b. The objectives for stopping at each of the proposed areas are to discuss and observe the following programs:

Beltsville, Maryland

1. Primarily a briefing concerning the organization of agricultural research in the US and a preview of the trip throughout the US.
2. Tour of the research facilities at Beltsville.
3. A one-half day session with the various specialists meeting with U.S. scientists and administrators discussing problems of mutual interest and discussion for the development of programs for future cooperation.

Raleigh, North Carolina

1. Implemented pest control programs (e.g. Tobacco Programs) and research programs for Heliothis and mosquito control and other insect related programs.
2. Biological control of alligator weed (Athernanthera philoxeroides) by Agasicles.
3. Mass rearing facilities of saprophytic nematodes for biological control.

- 3 -

4. Plant growth under controlled environmental conditions and air pollution research at Raleigh and Research Triangle Park.
5. Poultry research and field operations as they relate to pollution control from animal waste.
6. Research and field operations concerned with wind erosion and damage to vegetables.
7. Biological control of aquatic weeds using arthropods.  
(Dr. Pienkowski will come from Virginia Polytechnic Institute)
8. Integrated rodent control.

#### Texas

1. Cotton, sunflower, citrus and livestock integrated pest management programs for disease and insects.
2. Mass insect rearing and utilization (Trichogramma and Chrysopa).
3. Community pesticides studies laboratory.
4. Large open beef feedlot operations and programs which have been implemented to control pollution and to conserve and recharge water from feedlots. (Amarillo-Bushland)
5. Development of improved cropping management systems for both irrigated and nonirrigated cropland for wind erosion control and higher water use efficiency. (Amarillo-Bushland)

#### California

1. Cotton, alfalfa, forestry and citrus pest management programs and related research, (particularly insect, disease, weed control on these commodities).
2. Industrial programs concerned with pheromone, hormone, Heliothis virus and pesticide production.
3. Biological control of Klamath weed (Hypericum perefioratum with Chrysolina spp).
4. Waste management at large dairy operations and the use and disposal of liquid waste on land.
5. Damage from wind erosion on highway and urban areas.
6. The effect of air pollution damage on fruit and vegetable crops and forest.

- 4 -

#### Kansas-Missouri

1. Program concerned with using Trichogramma as a predator, Fish Pesticide Laboratory, other research programs related to pest management programs, particularly corn and soybeans, effect of pesticides upon disease susceptibility of plants. (Missouri - Columbia)
2. Injury to plants from pollution from lead mines. (Missouri - Rolla)
3. Feedlot waste management programs in a cold, humid climate, and programs to control feedlot runoff. (Kansas - Manhattan)
4. National Wind Erosion Lab and Great Plains Forestry Windbreak Projects. (Kansas)

#### Kansas City, Missouri

1. To summarize trip and plan future cooperative programs of mutual interest in the areas of integrated pest management, animal waste, wind erosion and dessication and effects of pollution on forest and plant growth.

It is anticipated that scientists from adjoining states will come to the specific locations to have an input into the program. By having as many people involved as possible, both in the US and U.S.S.R. visits, we will be in a better position to make a more accurate assessment of areas of interest and specific scientist for the development of highly productive cooperative programs in the future.

- c. Proposed visit to U.S.S.R. in July, 1973 by scientists concerned with integrated pest management. Time and interests for visits by other groups are identified in Appendices 2, 3 and 4.

Date - Conference and tour by integrated pest management scientists during July, 1973.

#### Points of interest in U.S.S.R. by US Scientists

- ✓ 1. Biological Control Center at Kiskinev - Use of combinations of conventional pesticides with microbial pathogens for pest management on soybeans, cotton and sunflower control programs, codling moth parasites. Implementation of integrated pest control concepts.
- ✓ 2. Tashkent Plant Protection Institute - Parasites, predators and microbial pathogens of Heliothis chloridae, germ plasm for insect and disease resistance for cotton.

- ✓ 3. Leningrad Old Union Plant Protection Research Institute - Technique for insect culture, work concerned with germ plasm of cotton species (Gossypium hirsutum to Verticillium resistance), other areas of integrated pest management.
- ✓ 4. Kiev-Ukraine Plant Protection Institute - Research and implementation related to integrated management programs, techniques for rearing insects and codling moth parasites.
- ✓ 5. Krasnodar - Research and implementation concerned with integrated pest management on sunflowers.
- ✓ 6. Moscow - Microbiological Institute - Use of biological control systems (viruses, phages, etc.) for control of fungi and bacteria and the induction of antibiotic production by viral infection of actinomycetes.
7. Disease and insect management programs on cotton, soybeans, citrus, grains and pome fruits.

### 3. Agenda for Cooperation

#### a. Objectives

##### (1) General:

The major objectives of the proposed trips between the U.S.S.R. and US participants would be

- (a) To identify specific research programs of mutual interest and benefit.
- (b) To develop a working relationship between U.S.S.R. and US scientists.
- (c) To initiate steps for developing cooperative programs involving the exchange of personnel.
- (d) To improve the mechanism for the mutual exchange of scientific information (Significant research findings, biological material and new or better methodology) and scientists and to develop cooperative programs concerned with integrated pest management between the U.S.S.R. and the US.

Each site selected for visit in the U.S.S.R. and US has current research programs directly engaged in research concerned with combating pest on major crops for both countries. Some of the crops selected for the cooperative program outlined in this proposal such as alfalfa are indigenous to the U.S.S.R. and many of the pests on the crops are identical to those in the US. Many of the predaceous and parasitic nematodes in the U.S.S.R. are identical to those in the US. The exchange of visits between scientists in the two countries would be highly advantageous for the identification and development



- 6 -

of cooperative programs between the U.S.S.R. and US. Members of industry, universities and Federal agencies will be involved in all parts of the programs.

The short term benefits to the US would be the acquisition of new information, new natural predators for control of plant and animal pests in the US, and genetic material resistant to pests. The long term benefits would be the development of cooperative programs between the U.S.S.R. and US involving exchange of scientists and cooperative efforts of specific research programs. It is anticipated that this part of the program could begin during late 1973 or early 1974 and details for exchange of scientists and materials will be worked out during the reciprocal visits. Such a program should greatly augment the development of more acceptable integrated pest management programs for improving the quality of our environment. These same benefits would apply to the U.S.S.R. plus there should be a great improvement in people to people relations between the two countries.

(2) The specific objectives for the other three subgroups are listed in Appendices 2, 3 and 4 and would closely resemble the above as they relate to their specific area.

- b. Step 1 is a tour of the U.S. by the U.S.S.R. Working Group and the proposed dates for this visit are March 19 through April 8, 1973.

Step 2 is a conference to be held in the U.S.S.R. followed by a tour of points of interest in the U.S.S.R. by a group of 12 to 15 US participants concerned with integrated pest management. The suggested date for the second step (visit to U.S.S.R.) is July 1973.

Step 3 is a visit to the US by a group of U.S.S.R. scientists concerned with integrated pest management. August is the suggested date for this visit; details are in Appendix 1.

Step 4 would involve a trip to the U.S.S.R. by a small working group from the US representing animal waste, wind erosion and dessication and the effect of pollution on forest and plant growth. The proposed date would be in September or October of 1973.

Subsequent steps would include a series of reciprocal visits by US and U.S.S.R. scientists representing the areas listed in Step 4. The proposed dates for visits of the U.S.S.R. scientists coming to the US are listed in Appendices 2, 3 and 4 for each of the respective areas. The exchange of scientists, biological material and information and the development of cooperative programs should be developed most rapidly in the area of integrated pest management and possibly animal waste, hopefully early in 1974. Priorities for the development

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- 7 -

of the program in agricultural pollution are as described in the stepwise presentation above.

The order of priorities for the four areas listed under agricultural pollution are as follows:

First Priority - Integrated Pest Management (See plans outlined in Appendix 1)

Second Priority - Animal waste (See plans outlined in Appendix 2)

Third Priority - Wind Erosion and Dessication (See plans outlined in Appendix 3)

Fourth Priority - Effect of Pollution on Forest and Plant Growth (See plans outlined in Appendix 4)

Integrated Pest Management has first priority because it is of primary importance in the US and U.S.S.R. Animal Waste was also considered of utmost importance and is a major problem confronting the two countries.

By concentrating on one area the first year rather than diluting the effort over four areas, a highly successful cooperative program should develop more rapidly. The development of plans for the other areas in order of their priority should occur quickly.

c. U.S. Participants by Agencies and Organizations

Federal - USDA (ES, APHIS, ARS, FS, ERS, SCS, CSRS)  
EPA, AEC, DOI, NSF

State - North Carolina State University; Texas A&M University; University of California at Riverside, Berkeley and Davis; Kansas State University; University of Missouri at Columbia and Rolla; Michigan State University; North Dakota State University.

Private - National Agricultural Chemicals Association; Farm and Industrial Equipment Institute; Tennessee Valley Authority; National Livestock Feeders Association; American National Cattlemen's Association, and several private industries.

- 8 -

d. Detailed Budget

1. Budget for Visit of First Working Group from U.S.S.R.  
Russian-English Translators

USDA-SCS.....	\$1,500
USDA-CSRS.....	1,500
USDA-ES.....	1,500
USDA-ARS.....	1,500
USDA-FS.....	1,500
DOI.....	1,500

Necessary expenditures for agency personnel to accompany U.S.S.R. Working Group on tour in US have been approved by the following agencies:

USDA - Soil Conservation Service

Cooperative State Research Service

Extension Service

Agricultural Research Service

Forest Service

Department of Interior

Environmental Protection Agency

- 9 -

2. Budgets for specified areas under Section III - Pollution  
Related to Agricultural Production:(a) Integrated Pest Management

Agency	Support of Travel for Agency Personnel	Travel for Translators	Non- Specified
USDA - APHIS	\$8,000	\$1,500	
ARS	10,000	1,500	
CSRS		1,500	\$10,000
ES	8,000	1,500	
FS	8,000	1,500	
EPA	8,000		
Ciba Geigy Chem. Co.	5,000		1,500
NSF			8,000
CEQ	5,000		
AEC	Currently negotiating budget		
NACA	Currently negotiating budget		
NAS	<u>300</u>	<u>          </u>	<u>          </u>
	\$52,300	\$7,500	\$19,500

Currently under negotiation with AID in State Department for travel money for scientists and/or translators.

(b) Animal Waste

EPA	\$ 5,000
USDA - ARS	4,000
CSRS	2,000
ES	2,000
University of Nebraska	<u>2,000</u>

\$15,000

- 10 -

Agency	Support of Travel for Agency Personnel	Travel for Translators	Non- Specified
<u>(c) Wind Erosion and Dessication</u>			
USDA - ARS	\$ 3,000		
ES	3,000	1,500	
FS	3,000		
SCS	3,000		
	<hr/> \$12,000	<hr/> \$1,500	
<u>(d) Effects of Pollutants</u>			
DOI		\$1,500	
USDA - ARS	\$ 4,000		

All of the above monies have been committed by the agencies indicated but the exact levels of support are somewhat contingent upon the budget for the 1973-74 fiscal year. Specific commitments from a variety of private industries are not yet available. However, the general response to the program has been favorable, and there is adequate reason to believe there will be sufficient support from private concerns.

- 11 -

#### 4. Involvement of Private Organizations

State Universities - There will be several universities involved in demonstrating active research and implemented programs on their respective campuses and in the field. It is anticipated that these and additional universities will ultimately be involved in exchanging information, new methodology and biological material and the development of cooperative programs between U.S.S.R. and US scientists.

Industry - Through the organizations representing the respective industrial interests, several specific industrial companies will be involved by demonstrating their research and development programs. Also, various grower groups will demonstrate specific programs which have been put to practice under field conditions. In Texas and California there will be an opportunity to observe the role of private industry in actually implementing and managing pest programs.

It is anticipated that two members of each subgroup will have representation from private industry. Ciba-Geigy and possibly two other representatives from industry will participate in going to the U.S.S.R. In addition, industry representatives will accompany the U.S.S.R. participants on travel in the US, and in the U.S.S.R. Selected industrial facilities in the US will be included in the itinerary for visiting U.S.S.R. personnel.

#### 5. A Public Information Plan

##### Russian Teams

1. Set up information command post in INF as contact for reporters who have special requests for interviews or questions.
2. A press conference at the National Press Club for environmental and agricultural press primarily, but open to all press. 1/
3. Mail background papers to agricultural and environmental press when first team schedule is known. Would summarize:
  - a. History of developments leading up to trips.
  - b. The teams, their makeup, their objectives.
  - c. Significance of this exchange to world understanding and peace.
  - d. Significance of this exchange in erosion and pollution abatement.
4. Contact press in area where Russian teams will be traveling to to view specific projects. Provide these newspeople with specifics on the exchange program as background.

- 12 -

5. Schedule any Russian spokesman for USDA TV and radio releases. Schedule US experts on the environmental teams.
6. A special effort would be made to get all appropriate information to the science press and to universities. INF will provide all available news on the Russian teams and their work to the Agricultural Science Review, the IAS News Report, the Science and Government Report and Washington based science writers.
7. United States Teams

11 An international photojournalist such as Carl Purcell of AID should accompany each US Environmental Team through Russia. His work would be available for release as mattes, glossy prints and stories to the general press (for the first team only) and (for all four teams) to specialized publications as well as TV slide segments for release through general audience programs.

1/ We recommend (if funds are available);

Reception for first team at the National Press Club.  
Hours: 6:30 to 7:30 press Q and A session. Cocktail reception following. Invitation only affair would cost \$1,000 for 125 invitees. Similar events for remaining three teams could be hosted by Washington based national conservation and environmental organizations.

APPENDIX NO. 1

3.

Specific Agenda for Cooperation for the Subgroups Concerned with Integrated Pest Control:

Planning Committee

B. G. Tweedy, Chairman	- University of Missouri (USDA)
J. S. Robins	- Cooperative State Research Service (USDA)
W. Upholt	- Environmental Protection Agency
W. Klassen	- Agricultural Research Service (USDA)
J. Thomas	- Extension Service (USDA)
J. Brazzel	- Animal & Plant Health Inspection Service (USDA)
R. Smith	- University of California, Berkeley
W. Hollis	- National Agricultural Chemical Association
J. Brooks	- National Science Foundation
J. Perkins	- National Academy of Sciences
L. Apple	- North Carolina State University
K. Hood	- Environmental Protection Agency
R. Rabson	- Atomic Energy Commission
W. Waters	- Forest Service (USDA)

a. Objectives

(1) Integrated Pest Control - To improve the mechanism for the mutual exchange of scientific information (significant research findings, biological material and new or better methodology and scientists) and to develop cooperative programs concerned with integrated pest control between the U.S.S.R. and the U.S. The benefits to the U.S. would be the acquisition of new natural predators to control plant and animal pests in the U.S., and the acquisition of genetic material resistant to pests. Such a program should greatly augment the development of acceptable integrated pest control programs for improving our environment. These same benefits would apply to the U.S.S.R. plus there should be a great improvement in the people to people relations between the two countries.

b. Meeting schedules are proposed in the main report. It is expected that cooperative research programs between scientists in the two countries will begin in late 1973 or early 1974.

c. Proposed visit by U.S.S.R. scientists to the U.S. for August, 1973. The first trip would be a preview for the Working Group to develop a more detailed plan for the second visit which will include the following places:



ITINERARY - 3 week visit

Plans to visit and objectives at each place:

1. Beltsville, Maryland - ARS Plant Research Station -

Objectives: To have a briefing period for the tour, review the structure of Federal, State, and private research groups within the USA and to observe research programs at Beltsville concerned with Integrated Pest Control. Total of 2 days.

2. North Carolina - North Carolina State University, Raleigh, and Federal and State facilities close by -

Objectives: To observe (1) Pest Management Research Program concerned with Heliothis; (2) Implemented Program on Integrated Pest Management on Tobacco, (insects, diseases and nematodes); (3) Mosquito Pest Management Program; (4) Vertebrate Pest Management Program (rats and mice); (5) Pesticide Residue Labs; and (6) Pilot Program using mass populations of predacious nematodes. Total of 3 days.

3. Texas - Texas A&M (College Station) and Lower Rio Grande Valley (Brownsville, Mission, and Weslaco). Would include both Federal and State facilities -

Objectives: To observe (1) Cotton Pest Management Program (implemented program involving Heliothis, boll weevil diapause program, pink bollworm control and improved, intelligent use of pesticides); (2) Southwest Screwworm Eradication Rearing Facilities; (3) Community Pesticides Laboratory; and (4) Citrus Pest Management Program; (5) Insect pests of sunflower and their control; (6) Research and developments in preventing or reducing crop losses due to pests. Total of 3 days.

4. California - Riverside, San Joaquin, and Berkeley (facilities would include Federal, State, and private installations -

Objectives: To observe (1) Cotton Pest Control Program (research, implemented action control programs and private sector scouting program; (2) Citrus Pest Management Program; (3) Ranco insect rearing labs; (4) Phermone-hormone production labs (Zoecon Laboratories) and IMC production of Heliothis virus; and (5) Integrated Pest Control for Forest. Total of 4 days.

5. Michigan - Michigan State University -

Objectives: To observe (1) implemented integrated apple pest control program; (2) cereal leaf beetle control program; (3) Pesticide Research Center; and (4) coordinated pesticide-environmental investigations relating to the Great Lakes ecosystems. Total of 2 days.

3. d. Funds committed include:

USDA - \$51,500 - Funds for travel for agency personnel

EPA - \$ 8,000 - Funds for travel for agency personnel

NAS \$ 300 - Funds for travel for agency personnel

Industry-\$5,000- Funds for travel for agency personnel

Funds for travel of translators have been committed by USDA - \$7,500

Non-specified funds from NSF, USDA, and Industry - \$19,500

There are also other possible non-specified sources.

- e. Uncertainties - Primarily budgets for 1973-1974 and specific plans currently being developed by the USSR for the USSR conference in 1973.

APPENDIX NO. 2

3.

Specific Agenda for Cooperation for the Subgroups Concerned With Pollution  
Caused by Feedlots:

Planning Committee

Hal Bernard, Chairman	-	EPA
W. LaVeille	-	EPA
R. Yeck	-	USDA-ARS
J. Lunin	-	USDA-ARS
P. Schleusener	-	USDA-CSRS

a. The objectives will be to study:

1. Animal management concepts that minimize pollution of the environment;
2. Waste management in cold climate;
3. Recycle and reuse of waste products.

We would like to see participation in each of the livestock areas. Our goal will be to develop better lines of communication for exchange of information and improve methods of handling animal waste and thus minimize damage to the environment. Our major contribution will be in confined animal feeding programs. We expect the USSR will have programs in cold weather climate handling that could benefit us.

- b. An animal waste meeting is proposed in the U.S. for the week of February 26 through March 10, 1974. U.S. scientists also plan to visit the USSR. The dates are uncertain until further consultation with the USSR. We expect to see, for all types of livestock, locations similar to those we plan to show the USSR scientists. Special points of interest are cold weather operations, cold climate waste disposal operations and recycle and reuse projects.

c. The USSR scientists will be visiting:

1. Beltsville, Maryland - Here they will receive a briefing and tour on composting, refeeding and poultry operations.
2. Ithaca, New York and environs to see the Cornell University Animal Waste Management Laboratory.
3. Syracuse to visit Agway and poultry operations.

4. University of Illinois and environs with emphasis on swine, waste management and lagoons.
  5. Minneapolis or St. Paul to tour swine, dairy and manure storage operations in cold climate.
  6. Madison, Wisconsin to see duck and dairy operations.
  7. Lincoln, Nebraska to see beef feedlot waste management research.
  8. Omaha, Nebraska to tour cattle feedlots and stockyards.
  9. Fort Collins, Greeley and Denver to tour cattle feedlots.
  10. Amarillo and Bushland, Texas.
- d. Each agency will fund the travel and per diem requirements of its respective participants. Industry will continue to "pay its own way". For the U.S. trip to the USSR, each participant will obtain travel and per diem from his parent organization.

EPA will contribute \$5,000 toward partial travel of the institution participants with a ceiling of \$1,000 per person per trip. USDA will provide \$4,000 from ARS, \$2,000 from CSRS and \$2,000 from ES. The University of Nebraska will provide \$2,000, all for institution participants.

Planned Budget:

EPA - two participants - 14 days in U.S.

Per diem - \$ 700.  
Travel - 1200.

one participant to USSR - \$1700.

EPA grantees - funds from program.

USDA - three participants - 14 days in U.S.

10 local participants \$10. per diem = \$100.

Local mileage \$10. per day

Bus Transportation - 8 days @ \$100/day = \$800.

two participants to USSR = \$3500.

Universities from program funds.

APPENDIX NO. 2 cont.

- e. Uncertainties - Structure of Russian Waste Management Group within their agricultural program, extent of USSR installations, benefits to industrial group from a visit to USSR and potentials for export of U.S. equipment and technology to USSR.

3.

Specified Agenda for Cooperation for the Subgroups Concerned with Pollution Caused by Wind Erosion:

Planning Committee

Joe Turrell, Chairman	-	USDA-SCS
N. P. Woodruff	-	USDA-ARS
H. L. Barrows	-	USDA-ARS
Harold I. Owens	-	USDA-ES
Carl E. Ostrom	-	USDA-FS
Stanley L. Krugman	-	USDA-FS
Ralph Read	-	USDA-FS
Douglas Hewitt	-	Farm and Industrial Equipment Institute

- a. The objectives are to exchange scientific information in:
1. Mechanics of soil movement by wind as related to erosion and environmental pollution.
  2. Delineation of major factors influencing wind erosion and developing mathematical models relating to these factors for control purposes.
  3. Design, development, establishment, and evaluation of wind erosion control practices.
  4. Selection of genetic improvement of plant material for use in ground cover and windbreaks.
  5. Other control practices such as reducing clod disintegration, surface sealing, reducing impact of wind-driven rainstorms, and use of effective cropping management systems.

The USSR has especially advanced research and technology in the establishment and culture of windbreaks and greenbelts, the basics of soil science and they have access to a great variety of plant materials. The U.S. is the world leader in developing mathematical models to analyze factors influencing wind erosion and implementing systems for control. The U.S. has also developed basic information on soil-water-microclimate relationships and the use of vegetative wind barriers to effectively reduce soil losses by sand and sand blasting of crops.

We hope to establish a good communications relationship for exchanging information on wind erosion control.

APPENDIX NO. 3 cont.

- b. A USSR visit to the U.S. is planned for April 9 through May 4, 1973.

U.S. visit to USSR sites proposed to be visited include USSR farm units in arid areas, All-Union Scientific Research Institute of Agro-Forest Amelioration; Stalingrad, Ukrainian Scientific Research Institute of Agriculture and Forest Amelioration, Kharkov, Kamennava Steppe Experiment Station C. Voronezh, Ukrainian Academy of Agriculture and Forestry at Kiev, Orenburg Steppe Experiment Station at Kuybyshev, and Bagdo Experiment Station in the Astrakhan Region.

- c. Sites to be visited in the U.S. include:

1. Manhattan, Kansas, and environs including the National Wind Erosion Research Lab, the Kansas State Experiment Station, field observations, Plains forestry projects, the SCS and Kansas State University Cooperating Plant Materials Center, and agricultural equipment manufacturers -- Krause Manufacturing Company and Hasston Corporation.

The group will observe soil particles research and wind-breaks development and plant evaluation and selection projects.

2. Amarillo, Texas, and environs including the Southwestern Great Plains Research Center. The group will observe cropping management systems for wind erosion control and higher water use efficiency and center pivot irrigation systems.
3. U.S. Central Great Plains Field Station at Akron, Colorado, and field observations. The group will see field investigations on dryland moisture conservation, snow conservation, land-forming practices for water management, soil and residue management practices and the use of these techniques on individual farm units.
4. Eastern Nebraska, Nebraska State Agricultural Experiment Station and College of Agriculture plus field observations in Sandhills Region.

The group will observe research on tillage, fertility practices, residue management and moisture conservation problems on dryland crop areas, biological problems associated with erosion control, development and evaluation of water use practices, windbreak design and use and field use of center pivot irrigation systems.

APPENDIX NO. 3 cont.

5. North Dakota State University State Experiment Station and environs where they will see soil and water management systems to optimize water use and conservation tillage methods.
6. Bismarck/Mandan area of North Dakota including the U.S. Northern Great Plains Research Center, where they will observe research on environmental influences and research and application of soil management, moisture conservation, land forming for erosion control and snow-water management on dry farm and range lands. The Plant Materials Center and a small machinery manufacturing plant specializing in tillage equipment used for controlling wind erosion will be seen.
- d. Regarding budgets: Verbal commitments of funds have been obtained dependent upon agency's involvement and benefits to participating personnel, from SCS, FS, ARS, and ES for any person representing them.
- e. The only likely problem will be in the timing of the visits as any appreciable deviation from the proposed dates will detract from the objectives of the trip.

4.

Non-Federal organizations involved State experiment stations, farm machinery manufacturers and district supervisors through local soil and water conservation districts will act as hosts and guide the visitors through their establishments on their trip through the U.S.



3.

APPENDIX A.O. 4

Specific Agenda for Cooperation for the Subgroups Concerned With Effects of Pollutants on Forests and Plants:

Planning Committee

Howard Heggestad, Chairman	-	USDA-ARS
Paul Miller	-	USDA-FS
L. C. Rainiere	-	EPA
Horace Wester	-	USDI
Richard Carrigan	-	NSF
F. E. Gartrell	-	TVA
S. Auerbach	-	Oak Ridge National Laboratory
Robert Rabson	-	AEC
Russell Seibert	-	Longwood Gardens, Pennsylvania
A. C. Hill	-	University of Utah
O. C. Taylor	-	University of California, Riverside
Leonard Weinstein	-	Boyce Thompson Institute for Plant Research, New York
Craig Hibben	-	Brooklyn Botanical Gardens, New York

- a. The objectives are to understand the effects of pollution on vegetation and to develop a technology for reducing losses and improving the use of plants in polluted areas. We expect the exchange of information on this subject will benefit both the U.S. and USSR by establishing a broader base for further research in the field. Areas of special interest are identifying and exchanging tolerant plants and plant materials and such plants which remove pollutants from the atmosphere, obtaining information needed on the mechanism of resistance in plants, studying sensitive biologic indicators of pollution and acute and chronic injury from air pollutants.
- b. We would like to visit Russia in mid-August or September 1973 to study conifer forests, vegetable growing areas, street and park plantings, botanic gardens, agricultural experiment stations, field crops (especially those sensitive to pollutants), institutes and universities conducting research on effects of pollution on plants and those regions with possible pollution problems in the temperate and subtropical climates and the large industrial cities. Suggested areas are Moscow, Kiev, Tiflis, Leningrad, the South Donets Basin, Lufansk and Tarasovka.

An itinerary has been planned for a USSR visit to the U.S. but no dates have yet been specified.

- c. Sites to be visited in the U.S.:

1. Beltsville, Maryland, for discussions of the air pollution problems and a tour of the research facilities involved in air pollution studies. Included is a visit to the U.S. National Arboretum and a National Park in Washington, D.C.

APPENDIX NO. 4 cont.

3.

2. EPA National Environmental Research Center at Research Triangle Park, North Carolina, and North Carolina State University to see Phytotron (controlled environment facilities).
  3. TVA, Chattanooga, Tennessee, and Cooper Hill, Tennessee, to see devastation to vegetation and soil from smelter operations and effects of heavy metals and sulfur dioxide on vegetation.
  4. Oak Ridge National Laboratory, Tennessee, to observe pollution by radionucleotides, the White Oak Lake ecosystem studies and the Eastern Deciduous Forest Biome Project of the International Biological Program.
  5. Rolla, Missouri, the University of Missouri, to observe lead mining, milling, and smelting activity in a natural forest.
  6. Salt Lake City, Utah, the University of Utah, to see research on the effects of pollutants such as ozone, sulfur dioxide, fluorides, and nitrogen oxides on vegetation and their removal by vegetation. Included is a visit to American Smelting Company to observe procedures taken by industry to reduce the problems.
  7. Riverside, California, University of California, to learn of research on photochemical smog and industrial sources of pollution. Included is a visit to the San Bernardino Mountains to see damage to forest species and the air pollution research facilities at the University and in the region.
  8. National Environmental Research Center, Corvallis, Oregon, to observe studies on plant effects and ecological research.
  9. Yonkers, New York, to visit the Boyce Thompson Institute for Plant Research. They have had an active research program on air pollution effects for about half a century.
- d. Most participants will pay their own expenses.
- NSF may make \$10,000 available. The Department of the Interior will provide one-half the cost of one translator. USDA-ARS will provide one-half the cost of one translator and share other costs if identified in addition to cost of scientists to go to Russia.
- e. There is still uncertainty as to budgets, communication, locations most advantageous to visit, and the identification of
- Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3

APPENDIX NO. 4 cont.

4. Non-Federal organizations involved will include academic institutions, private foundations and research institutes, local public organizations, professional groups, and industry which will act as hosts and present tours of their facilities.

# Memorandum

U.S. DEPARTMENT OF  
HOUSING AND URBAN DEVELOPMENT

TO : Jack Perry  
Council on Environmental Quality

DATE: 4 JAN 1973

IN REPLY REFER TO:

FROM : Brian C. Woodward  
Office of International Affairs

SUBJECT: Urban Environment Working Group Revised Draft Project Paper

Enclosed is the Urban Environment Working Group's revised draft project paper with appendices, including a proposed itinerary (Appendix III) which the Soviets have accepted. It includes proposals for the exchange of information and fact-finding surveys of each country's experience and potential in the major aspects of the urban environment listed in Section IV of the Memorandum of Implementation. It does not include municipal water purification since this is specified in Section II.

We expect that the initial exchanges will enable us to determine in which areas, other than permafrost construction technology and waste management, continued cooperation is most likely to result in substantive benefits to the U.S.

The funding proposals are based on HUD's commitment to the principle of "the sending side pays". We note CEQ's agreement to this principle insofar as the Urban Environment Working Group is concerned.

*Brian C. Woodward*  
Deputy Director

Enclosures: A/S

US-USSR ENVIRONMENT AGREEMENT: SECTION IV (URBAN ENVIRONMENT)  
URBAN ENVIRONMENT WORKING GROUP

DRAFT PROJECT PAPER

I. Composition of the Working Group

The Working group is divided into six sub-groups and one sub-sub-group each of which is concerned with one of the aspects of the urban environment listed in Section IV of the Memorandum of Implementation of the US-USSR Environmental Cooperation Agreement. The composition of the Working Group is as follows but membership is expected to vary as the project develops; it will include selected representatives of interested public and private organizations (see Appendices I & II)

Chairman - Harold B. Finger, Assistant Secretary for  
Research and Technology, HUD  
Exec. Sec. - Brian C. Woodward, Deputy Director, Office  
of International Affairs, HUD

Sub-Group Chairmen:

- Sub-Group for Comprehensive Planning and Development (Atlanta)  
- Undesignated. (Richard H. Broun, Deputy Director, Office of Environmental Standards, Community Planning and Management, HUD, is acting as Washington, D.C. representative)
- Sub-Sub-Group for Historic Preservation, Recreation and Parks and Tourist Zones - Ernest A. Connally, National Parks Service, DOI
- Sub-Group for New Communities - Edward M. Lamont, Director, Office of New Communities Development, Community Planning and Management, HUD
- Sub-Group for Noise Abatement and Control - Alvin Meyer, Deputy Assistant Administrator for Noise Control Programs, EPA and Charles R. Foster, Director, Office of Noise Abatement, DOT
- Sub-Group for Permafrost Construction Technology and Waste Management - Henry W. Coulter, Deputy Director, Office of Environmental Geology, U.S. Geological Survey, DOI
- Sub-Group for Solid Waste Management - Val Grey, Office of Solid Waste Management Programs, EPA
- Sub-Group for Transportation - John E. Hirten, Assistant Secretary for Environment and Urban Systems, DOT

2.

2. First Meeting of the Working Group

(a) Meeting in the U.S. The U.S. Working Group invited the Soviets to send a Working Group composed of specialists in the major areas listed in Section IV of the Memorandum of Implementation to visit the United States from December 4-18, 1972. The date was inconvenient and a new invitation has been tendered for the end of February 1973. The purpose of the visit is to learn more of Soviet interest in, and efforts to, enhance the urban environment, to show them something of U.S. experience in this; and to initiate plans for a cooperative program which will produce substantive benefits for both countries. The proposed itinerary is shown in Appendix III. U.S. participants in meetings with the Soviets will be selected from interested public and private organizations.

✓  
(b) Meeting in the USSR. Depending on the plans developed as a result of the first meeting, the Joint U.S.-USSR Working Group will schedule a second meeting in Moscow or Leningrad during the late summer of FY '74. Because of the complexity of the urban environment and the diversity of interests represented by the Working Group, the delegation should at minimum include the Chairman and two specialists in each of the areas chosen for cooperation. If warranted, and funds are available, the number of specialists could be expanded. After an initial briefing by the Soviets, the members of the delegation would separate to inspect Soviet research installations and examples of the results of Soviet work in their areas of interest. The delegation would expect to be in the Soviet Union approximately ten days.

3. Agenda for Cooperation

(a) Objective. The Soviets view the improvement of the environment, including the assurance of a healthier urban environment, as a problem of national importance. Numerous Soviet scientific and planning organizations are currently engaged in research in the areas covered by the U.S. Working Group (comprehensive planning and development, construction technology and waste management in permafrost areas, new communities, solid waste management, historic preservation and recreation areas, urban transportation, and the abatement and control of noise), each of which is of major importance to the urban environment. Soviet-U.S. cooperation in these areas, therefore, may be expected to benefit both countries, particularly in so far as it results in accelerated progress in enhancing the urban environment through the exchange of techniques and experience.

On the other hand, we do not as yet know enough of Soviet experience and research in all of these fields to determine if Soviet-U.S. cooperation in each of the projects listed below will provide sufficient substantive benefit to the U.S. to warrant joint cooperation beyond the exchange of written information and surveys by experts

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except in the case of construction technology and waste management in permafrost areas where Soviet experience is much more extensive than that of the United States. We cannot make such a determination until we compare U.S. experience with that of the Soviets at the proposed meetings of the Joint Working Group (see paragraph 2 above).

(b) Specific Steps and Dates. The first step in implementing Section IV of the Memorandum of Implementation is the proposed visit of a Soviet delegation to the U.S. in February 1973 and the preliminary exchange of views on a useful program of future cooperation which we expect it to generate. This will be followed by the exchange of written information and by a fact-finding visit of a U.S. delegation to the USSR in the first quarter of FY '74. Depending on the results of these meetings a program for future cooperation in these areas of the urban environment in which joint U.S.-Soviet cooperation appears likely to be most productive will be formulated. This program would include the further exchange of information and experts, and possibly joint research where this is acceptable and of benefit to each country.

#### Projects Proposed for Study in FY '74

Comprehensive Planning and Development. Section IV of the Memorandum of Implementation calls for the joint examination of methods of planning and assuring a desirable environment in Atlanta and Leningrad initially. Atlanta is an excellent subject for this purpose since the level of professionalism and of public institutions for planning is of the highest caliber. The city has a dynamic growth economy, a new transit system, and a racially representative public sector which permits the emphasis to be placed on the delivery of services and their coordination rather than on the economic and social problems which complicate orderly planning and administrative decision in other metropolitan areas.

Benefits to the U.S. of an examination of the comprehensive planning and development of a desirable environment in Leningrad are unclear, but Soviet planning appears to be more comprehensive and detailed than that of the U.S. The Soviets have undertaken a number of efforts to improve the urban environment of other major cities, including efforts to restrict their growth through the development of small and medium-sized cities and the construction of new towns. U.S. experts believe that the U.S. might benefit from a greater knowledge of Soviet planning techniques, including the relationship of urban planning to regional planning.

Construction Technology and Waste Management in Permafrost Areas. This topic is given high priority because of the greater Soviet experience in this area and the expected benefits to the U.S. in connection with the economic development of Alaska. Its objective is to foster mutual

4.

understanding of the theoretical and applied aspects of construction and waste management technologies in permafrost terrain common to the U.S. and the USSR; to initiate, through the exchange of permafrost specialists, increasing cooperation in research on this subject; and eventually, if this proves feasible, joint theoretical and applied research on permafrost engineering technology. The program would include discussion of the subject with the Soviet delegation in Washington in February 1973 and joint visits by U.S. and Soviet specialists to selected U.S. and USSR research installations which specialize in permafrost studies during the first quarter of FY '74. If the results of these exchanges permit, the exchange of individual specialists would be proposed in FY '75, and, if feasible, these would be followed by joint U.S.-Soviet studies of applied and theoretical aspects of pre-construction investigation techniques, construction techniques, waste management techniques and related environmental protection strategies. The USSR would benefit from direct contact with U.S. developments in pre-investigation techniques, including geophysical and remote sensing methods, and from an exposure to the latest U.S. permafrost construction and waste management procedures. HUD and EPA construction and waste management experts have not been invited to participate in the Second International Conference on Permafrost in Irkutsk in July 1973. U.S. specialists in the urban environment would benefit greatly from closer direct familiarity with Soviet experience in permafrost construction and waste management and with current Russian theoretical studies.

New Communities. The Memorandum of Implementation states that Columbia, Maryland, and Reston, Virginia, in the U.S. and Togliatti and Akademgoredek in the Soviet Union will be investigated as examples of the environmental, physical, social, economic and other factors considered in the design and development of satellite and free-standing new communities. The Soviets have also expressed an interest in Jonathan, Minnesota, which is a better example of Title VII new communities with regard to income mix than Reston and Columbia.

The Soviets have built more than 900 new communities, over 400 of which were constructed on sites with no previous urban nucleus. Their planning of these communities is more comprehensive and detailed than is frequently the case in the U.S. Both Togliatti and Akademgoredek, however, reportedly are characterized by socio-economic segregation. It seems likely, therefore, that the Soviets would derive additional benefits if the program were to include at least one Title VII new community. Other areas, the examination of which might profit both countries include: the latest advances in economic modelling and analysis as applied to feasibility studies of new communities, the most recent methods of financial analysis used to test the case of various development patterns and locations, the criteria used to measure the successes and failures of the planning of new communities, and environmental innovations in these communities. The extent of



5.

Soviet-U.S. cooperation on this subject depends on the results of the discussions of U.S. and Soviet experts during the proposed meetings of the Joint Working Group in FY '73 and FY '74.

Solid Waste Management. The collection, disposal, neutralization and utilization of the vast mass of wastes resulting from man's activity is one of the major problems in any attempt to enhance the urban environment. The U.S. and the USSR are looking for new and innovative methods to solve the problems posed by the creation of urban solid waste. The U.S. objective during the first meeting of the Joint Working Group in the U.S. is to determine the nature and scope of Soviet urban solid waste management technology, systems, problems and solutions and to determine the degree to which further exchanges of information, and possibly other types of programs, will benefit both countries. During their visit, the Soviets will investigate solid waste management in Atlanta and San Francisco. If U.S. estimates that solid waste managementsystems are more advanced than Soviet systems are correct, there would be little substantive value to the U.S. in including an American expert in the U.S. delegation to the second meeting of the Joint Working Group. On the other hand, the enhancement of Soviet urban environment which might result from Soviet exposure to U.S. solid waste management systems might help both countries improve their urban environment by enlisting Soviet cooperation in a more productive joint program in another aspect of the urban environment.

Historic Preservation, Recreation and Parks, and Tourist Zones. The objective of this project is to promote the enhancement of the urban environment of both countries through exchanges of information on each country's experience in solving problems of historic preservation and natural parks. Both countries are aware of the importance of relating cultural continuity and cultural heritage with physical planning, and both believe that cultural monuments should not only be protected physically but that their role in urban development should be enlarged. Preservation practice in both countries has included extensive reconstructions supported by exhaustive research and high technical standards. The program for this exchange of information will be worked out at the proposed meetings of the Joint Working Group and is expected to include exchanges ranging from the technical and professional aspects of preservation to matters of public policy and implementation. It is believed that both countries will benefit from such a program, particularly in so far as it leads to new methods of ensuring the further life, productive use, and architectural integrity of historic districts within the fabric of modern urban life.

Transportation. The objective of this project is to exchange information on the impact of transportation systems and facilities on the urban environment, and the use of transportation as a means to improve the quality of this environment. The program would include visits by Soviet experts to mass transit organizations in Atlanta and San Francisco

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during the first Joint Working Group meeting in February '73 and an exchange of information between Soviet and U.S. experts on methods of evaluating the impact of mass transit on the urban environment, in transportation for the aged and handicapped, reduction of automobile use, integration of transportation modes and their joint development, and multimodal corridors. The basic principle in the Soviet Union is the development of public transport which is convenient and inexpensive. Although their urban transportation problems are not yet as acute as those of the United States, they reportedly have undertaken considerable research in improving existing street networks, creating automatic traffic systems, and developing new types of transport. They also have engaged in research in forecasting improvements in urban transport systems, forecasting the necessary length of high-speed transport networks, (other than street transport) in large cities, and in determining the long-term needs in the development of urban streets for different motor-traffic densities. They consider urban transportation to be a major element in guiding urban development. A comparison of Soviet and U.S. experience thus is expected to be useful, particularly in connection with the analysis of the environmental and social impact of mass transit currently being conducted in San Francisco.

Noise Abatement and Control. The objective of this project is to exchange U.S. and Soviet experience and information on: (1) human response to noise, including the measurement and assessment of the impact of noise on the community, means of protecting workers from hearing damage due to exposure to noise, and improved audible warning signals of less annoyance to the community; and (2) successful techniques for reducing noise from transportation vehicles, including both air and surface systems. These subjects are highly important to the U.S. goal "to promote an environment for all Americans free from noise that jeopardizes their health and welfare" (Noise Control Act of 1972). The Soviets have been engaged in research on the reduction of urban noise for fifteen years, most recently in reducing noise along the path of its diffusion. Although Soviet efforts to design new, less noisy types of transport vehicles reportedly have produced no noticeable result, they claim to have reduced the urban noise level through the construction of thoroughways, the siting of railroad yards outside urban residential areas, and the development of underground construction. Soviet specialists in noise abatement and control will be informed of current U.S. work on the subject sponsored by DOT, EPA, CHABA, NASA, and several universities during the visit of the Soviet delegation to the U.S. in February 1973. U.S. specialists will receive a similar briefing on Soviet experience and interests during the visit of the U.S. delegation to the USSR. The subsequent exchange of information and visits will depend on the extent of interest produced during these first two meetings.

Additional Program in late FY '74 and FY '75. A successful effort to enhance the urban environment through the exchange of knowledge,

7.

experience, and techniques in the areas represented by the sub-groups of the Working Group will require detailed consideration by the technical representatives of each area. In some areas, the exchange of information and surveys by teams of experts may be adequate. In others, such as construction technology and waste management in permafrost areas, it is hoped that the initial exchanges will develop into longer-range programs, including extended exchange of experts and joint research projects beginning in late FY '74 or early FY '75.

(c) U.S. Facilities and Personnel to be Involved. U.S. facilities and personnel to be involved are listed in Appendices I and II. The principal facilities to be visited by the Soviets are regional and local governmental units, private institutes, universities, laboratories and companies concerned with the aspects of the urban environment covered by the Working Group. These will include the solid waste management and transportation facilities which the Soviets expressed an interest in visiting during the meeting of the Joint Commission in September '72.

(d) Budget. The budget for the above exchange is based on the principle that the sending side pays all expenses of its nationals. It also assumes that salaries of U.S. participants will continue to be provided by their parent organizations.

FY '73 Soviet two-week visit to the U.S. (assuming nine Soviets):

Escort travel and per diem @ \$700	\$ 1,400
Translation, misc.	1,000
	<u>2,400</u>

FY '74 U.S. delegation ten-day visit to the USSR (assuming 15 people):

Travel and per diem @ \$2,000	30,000
Interpreters @ \$100 per day for services in USSR	2,000
Translation, misc.	1,000
	<u>33,000</u>

Two Year Total Estimated Costs

FY '73	2,400
FY '74	33,000
	<u>\$35,400</u>

Participating agencies are willing to absorb the cost of domestic travel and per diem for their employees who participate in the visit of the

8.

USSR delegation to the U.S. in February 1973. Participating agencies will program their FY '74 budgets to include the cost of per diem and travel of their employees who participate in the Joint Working Group visit to the USSR in early FY '74. The cost of translation, publication and interpreters for U.S. participants in FY '74 also will be included in each agency's FY '74 budget proposal. Private sector participants will be expected to provide their own funding.

(d) Uncertainties or Problems and Estimates of Soviet Acceptance.

The research envisioned is included in the section dealing with the of the urban environment of the Memorandum of Implementation of the Environmental Cooperation Agreement, signed in Moscow in September 1972. It is believed that the Soviets will not hesitate to accept the proposed exchange in all areas except possibly permafrost construction technology and waste management, which probably is the major area in which the U.S. is likely to derive meaningful substantive information. The major impediment to cooperation in this area appears to be a division of responsibility within the Soviet bureaucracy.

4. Involvement of Private Organizations. The participation of the private sector is essential to the success of the proposed exchange. It is planned that the mixture of public and private participants be reasonably balanced. The final selection of the U.S. members of the FY '74 delegation to the USSR, and of individual scientists for extended studies, will be decided by the chairmen in consultation with the scientists selected to assist in the program.
5. Public Relations Plan. Participating agencies will make every effort to exploit the program's high potential for public impact. Preliminary plans include:

- \* Press release prior to the arrival of the Soviet delegation in February '73 announcing commencement of the project, naming the U.S. and Soviet chairmen and other significant participants, and describing the aims and general nature of the project.
- \* Press and/or radio and TV interviews with the Soviet delegation in each of the cities visited in February '73.
- \* Press conference or release at the conclusion of the Joint Working Group meeting.
- \* Press releases concerning the visit of the U.S. delegation to the USSR in early FY '74 prior to the visit and at its conclusion.
- \* Articles in professional journals by project chairmen describing the project, its aims, and its significance in the aspects of the urban environment with which they are concerned.

APPENDIX I

INTERESTED US AGENCIES AND REPRESENTATIVES\*

(1) Federal:

Dept. of Agriculture	(M) Roger Euler, Economic Research Service
Dept. of Commerce	(M) Tom E. Ware, Environmental Affairs
BEA	(NC) Undesignated
EDA	(M) Nathan Maryn
NBS	(N) Dan Flynn
NOAA	(M) Nels E. Johnson, International Affairs
Dept. of Interior	(M) John W. Larson, Asst. Sec. for Program Policy
NPS	(N) Dr. Sudia
USGS	(HP) Ernest A Connally (Sub-Gp Chmn)
	(PF) Henry W. Coulter (Sub-Gp Chmn)
	(PF) Jack Rachlin
	(M) Robert Raup
HEW	(M) Roy Spillenkothen, BCEM
	(N) Dr. Tierkel
	(NC) Undesignated
HUD	(A) Harold B. Finger, Asst. Sec. for R & T (Chmn)
	(A) Brian C. Woodward, Deputy Dir. OIA (Exec. Sec.)
	(A) Charles N. Rassias, OIA
	(A) Penelope P. P. Smith, OIA
	(CP&D) Richard H. Broun, CPM/OES (Sub-Gp Rep)

\*Not all agency offices are interested in each project; some will merely monitor agency participation. The initials in parentheses before the name of the representative refer to the subject in which he will be involved. The initials are: A - All projects; CP&D - Comprehensive Planning and Development; HP - Historic Preservation, Recreation and Parks and Tourist Zones; M - Monitor; N - Noise Abatement & Control; NC - New Communities; PF - Permafrost Construction and Waste Management; SW - Solid Waste Management; T - Transportation.

HUD cont.	(NC) Edward M. Lamont, CPM/ONCD (Sub-Gp Chmn) (T) Hartley Campbell, R & T (M) David Einhorn, UD (CP&D) Andrew Euston, CPM/OES (A) E. Jay Howenstine, R & T (N) James Miller, CPM/OES (PF) Robert C. Jones, R & T (HP) Mrs. Sweeney, CPM/OES (NC) Jack Underhill, CPM/ONCD (SW) Undesignated
Dept. of Labor	(N) Dr. Floyd Van Atta
Dept. of State	(M) Gilbert Kulick, SCI/ENV ] ✓ (M) J. G. Sampas, SCI/AS ]
Dept. of Transportation	(T) John E. Hirten, Asst. Sec. for Environment and Urban Systems (Sub-Gp Chmn) (T) Martin Convisser, Environmental Quality (N) Charles R. Foster, NA&C (Sub-Gp Chmn) (N) Dr. Ira Hirsh (N) James Woodall, FAA
EPA	(SW) Val Grey, OSWMP (Sub-Gp Chmn) (N) Alvin Meyer, ONA&C (Sub-Gp Chmn) (SW) H. Lanier Hickman, OSWMP (M) Louis Schoen, Office of Research (M) David Strother, International Activities
NASA	(N) Dr. Roudebush
Nat. Endowment for the Arts	(HP) Robert J. McNulty, Architectural Programs (NC) William Lacy
OST	(N) Dr. Russell Drew
(2) Regional:	
Alaska Dept. of Environment Conservation	(PF) Max Brewer, Commissioner
EPA Solid Waste Management Rep., Region IV	(SW) Elmer Cleveland

EPA Solid Waste Management Rep., Region IX	(SW) Charles Bournes
Georgia State Liaison Office for Hist. Pres.	(HP) Undesignated
Georgia State Senator	(CP&D) Leroy Johnson
Governor of California	(CP&D) Ronald Reagan
Governor of Georgia	(CP&D) Jimmy Carter
HUD Regional Officials for Region IV	(CP&D) Edward Baxter, Regional Admin. (CP&D) James Bitting (CP&D) Leo Zuber
HUD Regional Officials for Region IX	(CP&D) Robert H. Baida, Regional Admin. Others as necessary
Maryland Senator	(NC) Charles Mathias

(3) Local:

Atlanta Area Public Agencies	(CP&D) Emma Darnell, Spec. Asst. to Mayor
Atlanta Regional Commission	(CP&D) Dan Sweat, Exec. Dir. (CP&D) Raymond Levine, Health Planning Div. (CP&D) Thomas Roberts, Community Devel. Div. (CP&D) Harry West, Govt. Services Div.
Community Relations Commission	(CP&D) Nat Welsh, Exec. Dir.
Metropolitan Atlanta Rapid Transit Authority	(T) Terrell Hill, Depty, Dir., Inter- governmental Relations, MARTA
Macon-Bibb County Plng. and Zoning Comm.	(CP&D) Craig Lindelow, Exec. Dir.
Atlanta Area Officials	(CP&D) Ben Blackburn, US Congress, 4th Dist. (CP&D) Andrew Young, US Congress, 5th Dist. (CP&D) Sam Massell, Mayor of Atlanta (CP&D) Maynard Jackson, Vice Mayor (CP&D) Robert Mauney, City Manag. Decatur, Georgia (SW) Ralph Hulsey, Atlanta Sanitation Dept. (SW) William Humma, DeKalb County, Sanitation Dept.

Atlanta Area Officials cont.	(SW) Pulham Williams, Atlanta Pub. Wks. Dept. (IIP) Undesignated
Barrow, Alaska Officials for Construction and Waste Management Facilities	(PF) Undesignated
Cold Regions Research and Eng. Lab (CREEL)	(PF) F. Crory or W. Quinn
Local Officials of Columbia Reston	(NC) Undesignated (NC) Undesignated
Morgantown, W.Va. Officials (PRT system)	(T) Undesignated
Prudhoe Bay Officials (Constr. & Solid Waste)	(PF) Undesignated
NASA Langley Acoustics Laboratory	(N) Undesignated
San Francisco Officials (Public Admin. and Plng.) (Solid Waste) (BART System)	(CP&D) Mayor Alioto (SW) Undesignated (T) Undesignated
Savannah, Ga. Officials	(HP) Public Administration (HP) Cumberland Is. Nat. Seashore



INTERESTED PRIVATE ORGANIZATIONS AND REPRESENTATIVES\*

Advisory Council on Historic Preservation	(HP) Undesignated
Alyeska Pipeline Service Co. (Prudhoe Bay)	(PF) Undesignated
American Institute of Architects	(HP) Undesignated
American Institute of Planners	(CP&D) Leon Eplan
American Society of Landscape Architects	(HP) Undesignated
American Society of Planning Officials	(HP) Undesignated
Arctic Inst. of North America	(PF) Robert C. Faylor, Dir. Wash., D.C. Office
Arctic Research Laboratory, Barrow	(PF) Undesignated
Boeing	(N) Mr. Russell
Bolt, Beranek & Newman	(N) Dr. Bender (N) Dr. Beranek
Central Atlanta Progress	(CP&D) Undesignated
CHABA - Cte. on Hearing, Bioacoustics and Biomechanics	(N) Dr. Milton Whitcomb
Citizens Advisory Committee on Environmental Quality	(A) Laurance Rockefeller
Combustion Power Co. (San Francisco)	(SW) Undesignated
Community Council of Metropolitan Atlanta	(CP&D) Duane Beck, Exec. Dir.

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\*Not all agency offices are interested in each project; some will merely monitor agency participation. The initials in parentheses before the name of the representative refer to the subject in which he will be involved. The initials are: A - All projects; CP&D - Comprehensive Planning and Development; HP - Historic Preservation, Recreation and Parks and Tourist Zones; M - Monitor; N - Noise Abatement & Control; NC - New Communities; PF - Permafrost Construction and Waste Management; SW - Solid Waste Management; T - Transportation.

Developers (Atlanta)	(CP&D) Harold Dawson (CP&D) John Portman (CP&D) Herman Russell
Freightliner	(N) Undesignated
Golden Gate Disposal Co., (San Francisco)	(SW) Undesignated
International Harvester	(N) Undesignated
League of New Community Developers	(NC) Mark Freeman, Exec. Dir.
McDonnell Douglas	(N) Mr. McPike
Nat. Conf. of State Hist. Pres. Liaison Officers	(HP) Undesignated
National Science Foundation (Office of Polar Programs)	(PF) Undesignated
National Trust for Historic Preservation	(HP) Undesignated
Pratt & Whitney	(N) Mr. Bristol
Research Atlanta	(CP&D) Samuel Williams, Dir.
Southern Council on International and Public Affairs	(CP&D) Peter C. White
Stanford Research Institute	(N) Dr. Kryter
Sunset Scavenger Corp. (San Francisco)	(SW) Undesignated
TRACOR	(N) Dr. Wayne Rudmose
White Motor Co.	(N) Undesignated
Wilson-Thrig	(N) George Wilson
<u>Interested Universities</u>	
Alaska University (Fairbanks)	(PF) Undesignated
Arizona State University	(PF) T. L. Pewe, Geologist
Atlanta University	(CP&D) Undesignated
Columbia University	(N) Dr. Dorsky

Interested Universities cont.

Emory University	(CP&D) Undesignated
Georgia State University	(CP&D) Undesignated
Georgia Tech University	(CP&D) Undesignated
Harvard University	(NC) Undesignated
Morehouse College	(CP&D) Undesignated
University of California (Berkeley)	(CP&D) Prof. Wheaton
Yale University	(CP&D) Prof. S. W. Mood

SOVIET DELEGATION TO U.S. - PROPOSED ITINERARY\*  
(Two weeks beginning o/a February 27, 1973)

1. Washington, D.C. - 4 days
  - a. Joint Working Group meeting - 2 days
    - (1) Urban environment
    - (2) New communities
    - (3) Construction technology and waste management in permafrost areas
  - b. Visit to Reston, Virginia - 1 day
  - c. Visit to Columbia, Maryland - 1 day
2. Atlanta and Savannah Georgia - 3 days
  - a. Atlanta - 2 days
    - (1) Metropolitan planning and development
    - (2) Local government planning and implementation
  - b. Savannah - 1 day
    - (1) Historic preservation
    - (2) Recreation and tourist zones
3. San Francisco, California - 3 days
  - a. General topics including regional and local planning - 1 day
  - b. Bay area rapid transit (BART) and metropolitan transit - 1 day
  - c. Solid waste management, public and private sectors - 1 day
4. Washington, D.C. - 2 days
  - a. Preparation of report and plan of future cooperation
  - b. Press conference and/or press release

\* Approved in general by Soviet chairman

Funding: Fair - FY 73-74 - \$50,000 to 80,000 rough estimate.

Before the Fair: This symposium would be preceded by an extensive exchange of information between U.S. and U.S.S.R. to outline industrial waste technology and to develop specific priority industrial waste categories for the symposium.

Following the Fair: Continued exchanges between knowledgeable officials on subsequent advances in the art, specifically, experiences with new and improved techniques put into practices.

Immediate Actions Needed: Initial plans and announcements should be made in the next few months.

Lead Organization: EPA, OAMP.

V. Nature and Preserves

Group 1. Conservation of Rare and Endangered Species of  
Animals and Plants and General  
Wildlife Conservation and Management

I. Background

On May 23, 1972, President Nixon and Chairman Podgorny of USSR signed an Agreement on Cooperation in the Field of Environmental Protection which calls for collaboration in all subject areas. Work is to begin on a number of high priority projects during 1972-73.

Chairman Train of the President's Council on Environmental Quality and Academician Federov of the Hydrometeorological Service under the Council of Minister of the USSR on September 21, 1972, signed a Memorandum of Implementation of that agreement. "Nature and Preserves," subject area number V of the agreement, calls for major thrusts in "Conservation of Rare and Endangered Species of Animals and Plants and General Wildlife Conservation and Management." The text of the Memorandum of Implementation which speaks to this subject is set forth below:

Both sides will exchange visits and information and develop joint research for the purpose of improving understanding and protection of endangered species of plants and animals. A Soviet-American convention on conservation of rare species migrating between the USSR and the US will be prepared, and both sides agreed on the importance and desirability of concluding, as soon as possible, international agreements on conservation of wildlife in need of special protection, for example polar bears and other animals. Joint projects will also include research on preservation and management of various marine and other mammals, specifically polar bears and whales of the North Pacific, involving the bowhead, gray and fin whales. They will also carry out projects on management of free-ranging wildlife for animal production and research on and management of predators and waterfowl, including swans and other migratory birds.

Working group will be appointed that will meet initially in Moscow in December 1972. As necessary, appropriate groups will be organized (for example, whales). The lead agencies for the United States are the Department of the Interior and the National Oceanic and Atmospheric Administration of the Department of Commerce and for the USSR the Soviet Academy of Sciences and the Ministry of Agriculture. Some of the indicated projects, such as those for the bowhead whale and migrating swans, may be initiated prior to the working group meetings.

Specific cooperative projects which fall within the terms of the Memorandum of Agreement and are of interest to the United States have been outlined by our scientists. These projects all are contained within a general framework of wildlife conservation and are an integral part of or closely related to existing United States programs. The results of their implementation contribute to the attainment of the goals of those programs.

#### Relationship to Existing Programs

Programs to which the proposed cooperative projects will be added are outlined below:

Conservation of Endangered Species. The Endangered Species Conservation Act of 1969 charges the Secretary of the Interior with the responsibility of determining and publishing lists of species or subspecies of vertebrates, mollusks or crustaceans which are threatened with extinction, with providing technical assistance intended to help other nations prevent the extinction of their wildlife, with enacting treaties designed to conserve wildlife and other things. The following proposed cooperative projects are directly related to this program:

Establishment of survival centers.

Monitoring the status of rare or endangered species.

Convention on conservation of wildlife.

Management and research on wolves and other carnivores.

Production of free-ranging wildlife.

- B. Protection and Management of Marine Mammals. The United States Government is a party to both the International Whaling Convention of 1949 and the International Fur Seal Convention of 1956, which call for research and management of whales and fur seals, respectively. The Fish and Wildlife Coordination Act establishes program authority and responsibility for marine mammals, and the enactment of the Marine Mammal Protection Act of 1972 broadened the authority and responsibility of both the Departments of Interior and Commerce relative to these animals. The following projects are directly related to existing marine mammal program responsibilities:

Federal proposals for immediate implementation.

1. Distribution and population assessment of polar bears.
2. Monitoring and assessment of seals of the Bering and Chukchi Seas.
3. Population studies of the Pacific walrus.

For implementation in fiscal year 1974.

1. Bowhead whale population assessment and monitoring.
2. Distribution and migration of large whales, primarily fin whales, through tagging and other methods.
3. Biology and ecology of gray whales on Arctic summer grounds.

Private Sector Proposals. These project proposals generally fall within the overall scope and direction of the United States marine mammal research effort as determined by existing authority and responsibility. They will be funded primarily by non-governmental sources. In some cases wherein a Federal need for information coincides with a devised project and where funds are available, contracts or grants may be used as a means of implementation.

1. Whale studies under the IBP Marine Mammal Program (funding through private sources or Federal contracts and grants).
2. Walrus and ice seals of the Bering Sea--under the IBP Marine Mammal Program (funding through private sources or Federal contracts and grants).

Private sector proposal ready for implementation contingent upon private or other funding. Preliminary discussions with Soviet scientists have already taken place and related research was done in 1971.

1. Behavior of bowhead whales in Arctic waters--Mr. Scott McVay, Environmental Defense Fund, (private source of funding).



C. Migratory Birds. The United States Government is a party to treaties with Canada, Mexico and Japan which call for research and management of birds which are found in or migrate between the territories of these nations. Many of these birds also migrate to or are indigenous within the USSR. The following proposed cooperative projects are directly related to on-going programs:

1. Convention on Conservation of Wildlife. (This program was also listed under "Conservation of Endangered Species" above.)
2. Cooperative studies of migration and management of swans.
3. Other migratory waterfowl. Cooperative studies of waterfowl breeding areas and habitat preservation and management.

### III. Fiscal Year 1973 Proposals and Funding

Initiation of proposed cooperative projects will depend upon the outcome of the December meeting in Moscow at which time Soviet reaction and recommendations will be solicited and more detailed programs outlined. At the same time, questions of funding will be discussed. Interior (Bureau of Sport Fisheries and Wildlife) has no authority to assume visitor travel costs (receiving end pays), and capability of other departments (U.S. Department of Commerce) in this regard is not yet known. Lacking any formal agreement, we will assume all of our own costs for December meeting.

Following are the names of proposed participants in that meeting, an estimate of costs (primarily travel and per diem at an estimated \$1,500 per person), and the proposed source of funds:

#### A. December 1972 meeting--Moscow

##### 1. Government participants

Name:	Source of Funds:	Cost to Government:
a. Lindaska, J. P.	USDI/ISFPW	\$1,500.00
b. Greenwalt, Lynn A.	USDI/ISFPW	\$1,500.00
c. Baysinger, E. B.	USDI/ISFPW	\$1,500.00
d. Rogers, John	USDI/ISFPW	\$1,500.00
e. Lentfer, Jack W.	USDI/ISFPW	\$1,500.00
f. Lensink, C. J.	USDI/ISFPW	\$1,500.00
g. Thompson, R. A.	USDI/ISFPW	\$1,500.00
h. Miller, R. V.	USDC/KNFS	\$1,500.00
i. Franklin, J.	USDA, USFS	\$1,500.00
j. Royce, William F.	USDC/KNFS	\$1,500.00

Total cost to Government \$15,000.00

2. Non-government participants--to pay their own expenses

<u>Name:</u>	<u>Organization:</u>
a. Sladen, W. J. L.	Johns Hopkins University
b. Conway, W.	New York Zoological Society and American Association of Zoological Gardens and Aquariums
c. Irwin, H.	New York Botanical Garden and American Association of Botanical Gardens
d. McVay, S.	Environmental Defense Fund
e. Ray, G. C.	Johns Hopkins University <u>or</u>
f. Schevill, W.	Woods Hole Oceanographic Institute

B. Other Anticipated FY-1973 Expenses. The following anticipated expenses are tentative pending completion of the December meeting in Moscow. Those expenses expected to accrue to the Federal Government are set forth in expected chronological order.

1. Date: March 1973

Projects: "Seals of the Bering and Chukchi Seas" and  
"Pacific Walrus"

Comments: Three United States Federal representatives (two from USDC/NMFS and one from USDI/BSFW) plus one from the Alaska Department of Fish and Game will meet with Soviet delegates immediately following the meeting of the International Fur Seal Commission in Tokyo.

Expenses: Limited to cost of three persons spending additional time in Tokyo. Est. \$500/person \$1,500.00

Source: US Department of Commerce and US Department of the Interior operating budgets.

2. Date: March 5-9, 1973

Project: Convention on Conservation of Wildlife

Comments: Hosting Soviet delegation at session to draft convention. Includes translation and secretarial support.

Expenses: \$5,000.00

Source: U.S. Department of the Interior with assistance from U.S. Department of State.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3  
3. Date: Spring/early summer, 1973

Project: Establishment of survival centers

Comments: Five United States Federal agency representatives (two USDI, one USDA, one National Science Foundation, one Smithsonian) to spend 14 days in USSR. Additional representatives from non-government sector to travel at own expense.

Expenses (Government): \$8,000.00

Source, Sponsoring agencies: Government and private as shown above.

4. Date: Spring/early summer, 1973

Project: Various whale projects

Comments: Soviets will meet with counterparts in United States to firm up specific proposals.

Expenses: Seminar costs and related expenses \$8,000.00

Source: U.S. Department of Commerce

5. Date: Spring/early summer, 1973

Project: Migratory waterfowl--surveys

Comments: Two Soviet scientists to participate in United States waterfowl surveys and analysis of data and review of U.S. habitat preservation and management programs.

Source: U.S. Department of Interior/BSFW \$2,000.00

Initial travel costs (December) Moscow: \$15,000.00

Total other anticipated FY 1973 expenses: \$24,500.00

Anticipated grand total expenses to Federal Government: \$39,500.00

#### IV. Priorities

The submitted proposed cooperative projects may be divided into two general priorities as follows:

##### A. Those projects of high interest to the United States Government

1. Marine mammals--polar bear, whale and walrus projects.

2. Protection of endangered species--establishment of survival centers, monitoring status of rare or endangered species and convention on conservation of wildlife.
3. Migratory bird studies--research and management of water-fowl breeding areas and migration studies of swans.

B. Those projects of lower United States priority, but in which the USSR has expressed a keen interest:

1. Management research on wolves and other carnivores.
2. Production of free-ranging wildlife (reindeer, caribou, and muskox).

USA-USSR ENVIRONMENTAL PROTECTION PROGRAM

PROBLEM AREA V. Nature and Preserves

Project 2. Tundra Ecosystems and the Permafrost Zone

Chairman: Dr. Ronald O. Skoog, DOI/BSFW  
Subchairman: Harold T. Jorgenson, DOI/BLM

I. Background.

On May 23, 1972, President Nixon and Chairman Podgorny of USSR signed an Agreement on Cooperation in the Field of Environmental Protection which calls for collaboration in eleven subject areas. Work is to begin on a number of high priority projects during 1973.

Chairman Train of the President's Council on Environmental Quality and Academician Federov of the Hydrometeorological Service under the Council of Minister of the USSR on September 21, 1972, signed a Memorandum of Implementation of that agreement.

Project 2 of Problem Area V (Nature and Preserves) calls for major cooperative efforts in the research and management of tundra ecosystems and permafrost areas. The text of the Memorandum of Implementation which speaks to this subject is set forth below:

The two sides will exchange visits and information on permafrost regions and tundra ecosystems, including research on stabilization of disturbed areas and other ecological research. Visits will be made by U.S. and Soviet specialists to appropriate institutes and places in each country...

A meeting of specialists in the U.S. early in 1973 will concern itself with...[this project]. The lead agency for the U.S. is the Department of the Interior

Further consultations with the Soviets have elaborated upon the interests of the two countries in the proposed information-exchange programs. During Dr. Lee M. Talbot's (Council of Environmental Quality) recent visit to Moscow in mid-December, 1972, the Soviets provided him with suggestions on topics of interest to the USSR:

- (1) Influence of the oil and gas extraction industry, of industrial pollution, of utilization of caterpillar tractor transport, and of other human factors on the ecosystem of the tundra and permafrost zone.
- ✓ (2) Pesticides and their influence on wildlife of the tundra and permafrost zones. Development of measures for the prevention of their harmful effects.
- (3) Development (taking into account the specifics of the natural conditions of the North) of environmental protective measures which will assure the preservation of economically valuable types of wildlife.
- (4) Perfection of methods for assessing the population status of terrestrial mammals.
- (5) Study of the polar bear and the means for assuring its preservation.
- (6) Study of the caribou and the means for its rational exploitation by man.
- (7) Study of water birds of the North in the USSR and USA; development of methods for their protection and rational utilization.

These certainly are of interest to the United States as well, although a certain amount of overlap is evident with other of the USA-USSR exchange projects and problem areas. Coordination will be necessary to avoid needless duplication, notably with regard to environmental pollution and wildlife conservation.

Two major subprojects of mutual interest can be identified:

- 2A. Ecology of the tundra and taiga--the functioning of ecosystems, the interrelationships of all organisms (including man's role), and the assessment of ecological productivity.
- 2B. Resource management in the permafrost zone--the influence of man's exploitation of resources on the tundra and taiga ecosystems.

These fields relate closely to ongoing programs within the various resource-management agencies of the United States Government and of the State of Alaska, and are of great interest to many of our conservation organizations as well.

II. U.S. Proposals for Exchange Program.

Several specific cooperative projects which fall within the parameters of the Memorandum of Agreement and are of interest to the United States have been outlined by our scientists. These projects all are contained within a general framework of resource management and are an integral part of or closely related to existing United States programs. The results of their implementation will contribute to the attainment of the goals of those programs.

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SUBPROJECT 2A. ECOLOGY OF THE TUNDRA AND TAIGA.

A thorough understanding of the ecological interrelationships of all living and non-living matter provides the necessary base for the proper utilization of our natural resources. Such knowledge is vital to man's continued existence on this planet. The tundra and taiga zones occupy a considerable portion of the earth's surface and contain a vast store of resources. Yet these cold regions tend to be rather fragile and are particularly vulnerable to degradation through man's varied activities. With the ever increasing emphasis on the development and exploitation of Alaska's resources, it behooves us to obtain what knowledge we can concerning the ecology of these regions before we progress too far.

1. Projects of High Interest/High Priority.

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\* 2/A/1. Ecosystem Research (USA proposal).

Objectives: The ultimate goal is to obtain the knowledge needed for the proper management and exploitation of the natural resources in our boreal regions. Mutual exchange visits of tundra/taiga ecologists will



provide the workers of both countries with information on the present status of ongoing and planned research, as well as on current and anticipated resource-management problems. There will be opportunity to develop a data-exchange system and to plan joint research projects of mutual interest for future implementation. Comparable areas in each country would be designated as cooperative research sites where exchange scientists could work.

Relation to Ongoing Programs: The U.S. "Tundra Biome" program has completed three field-seasons of its initial 5-year effort. The National Science Foundation has approved the program through 1974, under the formal aegis of the International Biological Program. Broad objectives of the program are (a) To develop a predictive understanding of how the arctic wet-tundra ecosystem operates, especially at Barrow, Alaska; and (b) To bring basic environmental knowledge to bear on problems of degradation, maintenance, and restoration of the temperature-sensitive and cold-dominated tundra/taiga ecosystems. Support for this program has been as follows:

- (1) National Science Foundation -- guidance; research funding.
- (2) Office of Naval Research (DOD-Navy) -- logistic support; laboratory facilities; for scientists at Barrow, Alaska.
- (3) University of Alaska -- administrative services; private grants; scientists.
- (4) Cold Regions Research and Engineering Laboratory (DOD-Army) -- personnel, equipment, facilities; support of Biome Director at Hanover, New Hampshire.

The proposed cooperative exchange project is closely related to this ongoing program, whose international influence would be strengthened by this bilateral agreement between the USA and USSR.

\* 2/A/2. Distribution and Population Assessment of Polar Bears (USA and USSR proposal).

This project has been included by two separate USSR groups, and is of high interest to the USA. At present it is being organized and developed by the USA group under Dr. Linduska, Chairman of Project 1 under Problem Area V, who will meet with the Soviets in late January, 1973. Possible overlap between the two groups will be resolved later. Only one USA "team" will be formed, and it will work with both USSR groups as necessary.

\* 2/A/3. Water Birds of the North (USA and USSR proposals).

A similar problem of overlap exists, and the topic-area is of high interest to the USA. Dr. Linduska's group has proposed three projects that fall within the scope of this one. His group will have the lead in this topic-area, and the team members will work with both USSR groups as necessary.

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2. Projects of High Interest/Low Priority at this Time.

\* 2/A/4. Disease Reservoirs in Wildlife Populations (USA proposal).

*See list 8*  
Certain wildlife diseases (e.g., brucellosis, tularemia, rabies, plague) can infect livestock and man as well. Others (e.g., distemper),

while not too important to man himself, can be significant mortality factors among certain wildlife populations. The study of wildlife diseases comprises an important segment of both medical and ecological research. The tundra and taiga regions of the USA and USSR contain many of the same or closely related species of wildlife. Cooperative research on wildlife diseases should be mutually beneficial, and a project can be developed later if the Soviets express an interest.

\* 2/A/5. Population Assessment of Terrestrial Mammals (USSR proposal),

This subject actually fits into the broader category of population dynamics or animal ecology. The techniques of population census are one component, and considerable work has been done in the USA in that area of study. To certain<sup>extent</sup> the topic is covered in Project 2/A/1. For all animal ecologists are concerned with this problem. A specific project covering this subject can be developed later if interest warrants.

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SUBPROJECT 2B. RESOURCE MANAGEMENT IN THE PERMAFROST ZONE.

Development of the tundra and taiga zones of the world is proceeding rapidly as population pressures and resource demands mushroom. The high vulnerability to environmental degradation and the generally low productivity of ecosystems in the high latitudes necessitate careful resource management. The USA and the USSR face similar problems. By sharing their expertise and by implementing cooperative research/management projects, the two countries perhaps can solve these problems more quickly.

1. Projects of High Interest/High Priority.

\*2/B/1. Stabilization and Recovery of Disturbed Areas (USA proposal).

Objectives: This project seeks to explore the problems associated with surface disturbance caused by various of man's activities in permafrost areas and to develop adequate techniques for protection and recovery. Exchange teams will examine disturbed areas in each country that have resulted from oil-field developments, oil spills, strip mining, construction, off-road-vehicle use, farming, and wild fires, among others. Particular attention will be directed to methods currently used in rehabilitating these areas, and future cooperative projects will seek to learn the best techniques for exploitation of the natural resources with minimal degradation of the surface.

Relation to Ongoing Programs: Permafrost is a widespread natural phenomenon in the far north, controlled by climatic, geologic, hydrologic, topographic, and botanic factors. It extends over 85 percent of Alaska and is characterized by a variety of geomorphic features, such as polygonal ground, pingos, thaw lakes, beaded drainage, thermokarst pits, and muck deposits. These unique environmental features require special engineering and construction techniques; the unique ecological conditions existing in permafrost zones demand special land-management controls. Thus, the programs of all resource-management agencies in Alaska are affected by permafrost conditions, and they must take into consideration the mitigating measures necessary to prevent environmental degradation. The Soviets, of course, are especially knowledgeable about permafrost problems, and the USA can benefit greatly from their expertise.

\* 2/B/2. Extraction and Conservation of Non-renewable Resources (USA and USSR proposal).

Objectives: Eventually this project would be concerned with the problems of environmental degradation associated with all types of mining activities. Initially, however, it will focus on the oil and gas industry, currently expanding extensively into the tundra and taiga zones, and particularly will focus on pipeline development. Both countries are concerned with minimizing the adverse effects of petroleum exploitation. Exchange teams would visit oil and gas operations in each country, with a view toward learning the consequences of poorly conceived and constructed pipelines and oil-field complexes (environmentally speaking), and the means by which such "consequences" can be avoided or mitigated.

Relation to Ongoing Programs: Recent discoveries of oil deposits in Alaska have led to the rapid development of an oil field on the arctic tundra near Prudhoe Bay. A 48-inch petroleum pipeline is planned across Federal lands in Alaska, stretching some 785 miles between the oil field and the Port of Valdez. Nearly all of this distance would cross continuous or discontinuous permafrost ground. Associated with the pipeline, of course, would be pump stations, camp sites, access roads, airfields, and construction-material sites. Additionally, there will be an expansion of the oil-field complex and the construction of another pipeline to transport natural gas. The Bureau of Land Management of the U.S. Department of the Interior is charged with the surveillance of this pipeline construction and with the protection of the environment.

Similar pipeline construction in the USSR has been completed, and could provide valuable insight into some of the problems to be expected in Alaska.

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2. Project of High Interest/Low Priority at this time.

\* 2/B/3. Exploitation and Management of Renewable Resources (USA and USSR proposal).

Under sustained-yield management the renewable resources (e.g., forests, wildlife) in the tundra and taiga zones of the USA and USSR can contribute substantially to the annual economy. Such management requires a good knowledge of ecology and ecosystem dynamics, efficient harvesting techniques, and good planning. The multiple-use concept of land management as emphasized in this country should be of particular interest to the Soviets, as should our concepts of wildlife management and conservation. The Soviet lumbering industry and forest management in the taiga zone would be of interest to the USA. Cooperative projects can be developed later. Those concerned with wildlife might fit better under Dr. Linduska's group.

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III. Implementation of Exchange Program.

Initial planning for the program will be accomplished by correspondence. This exchange will finalize the team members and will provide a list of tentative projects for cooperative work. The list will be discussed and finalized at the first meeting with the Soviets during June-July 1973--the Soviet team in the USA June 10-30 and the American team in the USSR July 1-21, a total of six weeks. During this period each team will have the opportunity to view ongoing projects and become acquainted with management problems in the other country, and to discuss future exchange projects of mutual interest. At the close of this meeting final decisions will be made as to which projects will be implemented during Fiscal 1974.

At the present time all costs of the meeting, as well as of subsequent meetings, will be borne by the participants. In the case of USA agencies, these funds will come from existing appropriations. Insofar as possible State government agencies and private organizations will be encouraged to participate in these exchange visits.

A. Fiscal 1973 Program.

1. June 10-30 Meeting in USA:

a. <u>USA Team Costs</u>	<u>Source of Funds</u>	<u>Government Cost</u>
(1) Ronald O. Skoog (Chairman)	DOI/BSFW	\$1,000
(2) Harold T. Jorgenson (Subchairman)	DOI/BLM	1,000
(3) Jerry Brown	DOD/Army	1,000
(4) Wildlife Ecologist	State of Alaska	--
(5) Plant Ecologist	Private	--
(6) William M. Johnson	DOA/SCS	1,000
(7) Oscar J. Ferrians	DOI/GS	1,000
(8) George Gryn	DOI/GS	<u>1,000</u>
	Subtotal....	\$6,000

b. Estimated Additional Costs

(1) Interpreters (2 @ \$50/day)	?	\$2,100
(2) Reception for Soviets	?	200
(3) Car rental (20 car-days @ \$20)	?	<u>400</u>
	Subtotal....	\$2,700

2. TOTAL FISCAL 1973 COSTS TO GOVERNMENT.....\$8,700



B. Fiscal 1974 Program.1. July 1-21 Meeting in USSR:

a. <u>USA Team Costs</u>	<u>Source of Funds</u>	<u>Government Cost</u>
(1) Skoog	DOI/BSFW	\$ 1,800
(2) Jorgenson	DOI/BSFW	1,800
(3) Brown	DOD/Army	1,800
(4) Wildlife Ecologist	State of Alaska	--
(5) Plant Ecologist	Private	--
(6) Johnson	DOA/SCS	1,800
(7) Ferrians	DOI/GS	1,800
(8) Grye	DOI/GS	<u>1,800</u>
	Subtotal....	\$10,800

b. Estimated Additional Costs

(1) Interpreters (2 @ \$25/day)	?	\$ 1,050
(2) Reception for Soviets	?	<u>200</u>
	Subtotal....	\$ 1,250

c. TOTAL COST TO GOVERNMENT.....\$12,050

2. Additional Meetings:

Initiation of cooperative projects will depend upon the outcome of the June-July meeting with the Soviets. At that time Soviet recommendations and reactions to our proposals will be solicited, and a final program outlined. It is anticipated that

a maximum of five cooperative projects will be designated for Fiscal 1974, involving an estimated 20 man-months of participation by USA Federal employees. Additionally, the project chairman (R. O. Skoog) and subchairman (H. T. Jorgenson) will meet next winter in Moscow with their Soviet counterparts. A Soviet visit to Washington, D. C., during the year would require the services of one interpreter. These costs to the Government are estimated as follows:

- a. 20 Man-months @ \$1,500 (travel; subsistence).... \$30,000
- b. Meeting in Moscow:
  - (1) 2 USA chairmen @ \$1,000..... \$ 3,000
  - (2) Interpreter (7 days @ \$25)..... \$ 175
- c. Meeting in Washington:
  - (1) Interpreter (7 days @ \$50)..... \$ 350
- d. TOTAL COST TO GOVERNMENT..... \$32,525
- 3. TOTAL FISCAL 1974 COSTS TO GOVERNMENT..... \$49,575



DEPARTMENT OF TRANSPORTATION  
UNITED STATES COAST GUARD

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PHONE: 202-426-9573

5050/10  
5 JAN 1973

Mr. Jack Perry  
Council on Environmental Quality  
722 Jackson Place, N. W.  
Washington, D. C. 20006

Dear Jack:

Enclosed is our revised draft project paper for  
the Marine Oil Pollution Working Group of the  
US/USSR Environmental Program.

Sincerely,

A handwritten signature in cursive script, reading "S. A. Wallace", is written over the typed name.

S. A. WALLACE  
Captain, U. S. Coast Guard  
Chief, Marine Environmental  
Protection Division  
By direction of the Commandant

Enclosure - one

DRAFT PROJECT PAPER

Marine Oil Pollution Working Group

I. Composition of the Working Group

- A. Chairman - CAPT S. A. Wallace, USCG, Chief, Marine Environmental Protection Division
- B. U. S. Agencies
  - 1. U. S. Coast Guard
  - 2. Environmental Protection Agency
  - 3. U. S. Maritime Administration
  - 4. U. S. Geological Survey
  - 5. Department of State
  - 6. National Oceanic and Atmospheric Administration
- C. Private Organizations - no individuals specified at this time

II. First Meeting of the Working Group

- A. Proposed meeting site - U. S. Coast Guard Academy, New London, Connecticut
- B. Proposed date - May 4-11, 1973
- C. Itinerary
  - 1. Three days - USCGA, New London, Conn.
    - a. orientation
    - b. presentation of papers
    - c. discussion of procedures and techniques for control of oil pollution, including but not limited to vessel design and construction and vessel traffic systems
    - d. identification of areas of mutual interest requiring further investigation
  - 2. One day - Woods Hole Oceanographic Institution

3. One-half day - U. S. Coast Guard Air Station,  
Cape Cod, Mass.
  - a. flight in oil pollution sensor-equipped aircraft
4. One-half day - U. S. Coast Guard Air Station,  
Elizabeth City, N. C.
  - a. inspection of National Strike Force
5. One-half day - Ocean Science and Engineering, Inc.,  
Rockville, Md.
  - a. demonstration of ADAPTS
6. One-half day - Ocean Services, Inc., Reston, Va.
  - a. demonstration of High Seas Recovery Device
7. Possible Addition - Two days - Puget Sound, Wash.
  - a. demonstration and inspection of Vessel  
Traffic System

D. U. S. Participants

1. U. S. Committee listed previously
2. Personnel at facilities to be visited

III. Agenda for Cooperation

A. Exchange of Working Group

1. Objective - The objective is to familiarize the Russian Working Group with the techniques available and research underway for the prevention, containment, and removal of pollution by oil, and the effects therefrom, and to acquaint the Russian Working Group with the facilities and resources available for the control of oil pollution.

2. Steps and Dates

- a. February, 1973 - Planning session with U. S. Working Group
- b. May, 1973 - Initial meeting in U. S. with U. S. and U.S.S.R. Working Groups

3. U. S. Facilities and Personnel Involved

- a. U. S. Working Group listed previously
- b. Facilities listed in itinerary

4. Budget

a. U. S. Working Group (10 persons)

(1) Point of Origin to New London, Conn.	\$ 500
(2) Bus Charter	220
(3) Per Diem	1750
(4) Air Fares for tour of U. S. Facilities	- *
TOTAL	\$2470

b. Funding for travel and per diem to accomplished by individual agencies

c. Interpreters' salary and expenses (3 persons)

(1) Washington, D. C. to New London, Conn.	\$ 114
(2) Per Diem	525
(3) Salary @ \$100/person/day	2100
TOTAL	\$2739

d. U.S.S.R. Working Group (10 persons)

(1) Round Trip to U. S.	\$7000
(2) Per Diem	1750
(3) Miscellaneous Expenses	1400
TOTAL	\$10,150

e. The possibility of Coast Guard funding for per diem and charter bus expenses for the U.S.S.R. Working Group is being examined.

\* At present, planning provides for transportation via Coast Guard aircraft from New London to Cape Cod to Elizabeth City to Washington. In the event such aircraft cannot be made available, commercial air transportation will be required.

5. Uncertainties or Problems and Likelihood of Acceptance

- a. Security for Russian delegation
  - b. Communications
  - c. Emergency situations of sickness or death of member of Russian delegation
  - d. It is felt that the aforementioned problem areas are not insurmountable and that it is highly probable that the U.S.S.R. will participate in this aspect of the project.
  - e. A recent article written by Konstantin Ananichev on the U.S.-U.S.S.R. Environmental Agreement indicates one area of possible difference in approach. His remarks regarding marine oil pollution indicate a greater interest on the part of the Russians in the gathering of baseline data, and research towards providing technological means of preventing oil pollution. Our concept of the project limits the emphasis on the scientific aspects of pollution control and emphasizes the role of regulation for oil pollution prevention and the physical means of containing and removing discharged oil. It is understood that Mr. Ananichev is the leading scientist for the original negotiations and that his interpretation may not reflect the views of our Russian counterparts for this working group. Any problems in understanding can be resolved through direct contact with the Russian Working Group.
- B. At present, there are no plans for additional areas of cooperation. The initial meeting will provide areas of mutual interest which could be explored further through future exchange of delegations, exchange of literature, and exchange of individual specialists.

IV. Involvement of Private Organizations

- A. Two private organizations have expressed an interest in the project. Private firms with pollution control equipment developed under Coast Guard contract will participate in demonstrations of their product.

- B. It is felt that when a public information effort is established, there will be additional requests for participation. We anticipate limiting participation by private organizations to three (3) private firms and three (3) academic organizations.

V. Public Relations Plan

A. Coast Guard Public Information Offices

1. Press releases will be handled through the Coast Guard Public Information Offices in Washington, D. C. and New London, Connecticut.
2. Coast Guard PIO will arrange press conferences when warranted.

B. Professional Journals

1. Press releases and articles will be prepared for publication in oil pollution control trade magazines.
2. Press releases and articles will be prepared for publication in professional and scholarly journals.

C. Meeting with Officials

1. Greeting parties will be arranged for governmental officials who may wish to meet with the U.S.S.R. delegation.
2. Briefing sessions will be arranged, if desired, for the officials.



DRAFT PROJECT PAPER

U.S./U.S.S.R. ENVIRONMENTAL AGREEMENT IN AREA OF MARINE  
POLLUTION AND ITS EFFECT ON MARINE LIFE

I. Composition of Working Group

A. Chairman of the Working Committee:

Dr. Eric D. Schneider, Acting Director, Environmental Protection  
Agency, National Marine Water Quality Laboratory, West Kingston,  
Rhode Island

B. U.S. Agencies

1. Dr. Thomas Duke, Environmental Protection Agency, Gulf Breeze  
Laboratory, Gulf Breeze, Florida
2. Dr. Allen Hirsch, National Oceanic and Atmospheric Administra-  
tion, Washington, D. C.
3. Dr. Richard Eppley, Atomic Energy Commission

C. Private Organizations

1. Dr. John Knauss, University of Rhode Island ✓
2. Dr. Ed Carpenter, Woods Hole Oceanographic Institution
3. Dr. Karl Turekian, Yale University
4. Dr. K. S. Deffeyes, Princeton University
5. Dr. Claude Zobell, Scripps Institute of Oceanography
6. Dr. Quentin J. Stober, University of Washington

II. Meetings of the Working Group

A. The Russian Committee in the U.S.

1. Proposed itinerary and program - The following places were  
chosen in that they offer much diversity. In this way,

demonstrations, seminars, and conversations with research personnel can be individualized to correspond with the specific interests of each Russian Committee Member.

1 day - Narragansett Bay Area

- a. Orientation
- b. University of Rhode Island School of Oceanography
- c. Rhode Island Nuclear Science Center
- d. National Marine Water Quality Laboratory
- e. Various fisheries research facilities

1 day - Woods Hole Oceanographic Institution

- a. Field stations
- b. History of an oil spill, its effect on marine life, and subsequent recovery of the area
- c. Modern oceanographic research vessels
- d. Fisheries research

1 day - Connecticut Seacoast Area

- a. Mystic Seaport - example of ancient harbor
- b. New Haven - example of harbor similar to Mystic but affected by much building and dredging operations

3 days - Miami Area

- a. University of Miami
- b. Key Biscayne - Nuclear power plant's problem with thermal pollution of a marine environment and its effect on marine life
- c. Everglades - seacoast environment threatened by canal and dam building
- d. Disneyworld - power facilities and sewage treatment facilities built to blend in with the environment (possibility)

1/2 day - EPA's Gulf Breeze Pesticide Research Laboratory

1 day - Houston Area

- a. Pollution situation caused by shipping and industrial development
- b. The Houston Ship Channel's effect on Galveston Bay and its fisheries

2 days - Seattle Area

- a. University of Washington College of Fisheries
- b. National Marine Fisheries Laboratory
- c. Puget Sound estuarine studies
- d. Battelle N.W. research in the field of radioactivity in the environment

2 days - Cooperation implementation discussion sessions

Scripps Oceanographic Institute, La Jolla, California

2. Suggested dates - Early March, 1973

3. U.S. Participants

- a. The U.S. Committee listed previously
- b. Various researchers at the institutions listed in the agenda

B. U.S. Committee in the U.S.S.R.

1. U.S. Participants - The U.S. Working Committee listed previously

2. Proposed dates - Early June

3. Points of interest in Russia

- a. Moscow, Leningrad, Sevastopol, Kaliningrad, Vladivostok, Archangelsk
- b. Areas where the following research is done: Effects of pesticides on the environment; study of organic matter in seawater; study of heavy metals in seawater; effects of pollutants on marine organisms (micro and macro); effects of thermal pollution; pesticide residue analysis; instrumentation for analysis and monitoring of oceanic parameters; oceanographic research vessels; plastics and PCB's in the environment.

- c. New areas of research in oceanography and oceanic pollution which are under investigation.

### III. AGENDA FOR COOPERATION

#### A. Exchange of Working Groups

1. Objective: An initial exchange of working groups to each other's country is necessary to introduce each other to the facilities for research and the type of research actually in progress in each country. It will help the U.S. to identify areas.

where we can use Russian help. It will give the U.S.S.R. an opportunity to explore areas in which U.S. personnel can help them solve their problems.

2. Steps and dates:

January, 1973 - Planning session with U.S. Committee

March, 1973 - Initial meeting in U. S. with U.S. and U.S.S.R.

Working Committees

June, 1973 - Initial meeting in U.S.S.R. with U.S. and U.S.S.R.

Working Committees

3. U.S. facilities and personnel:

a. U.S. Working Committee members listed previously

b. U.S. agencies and institutions also listed previously

4. Budget

- a. U.S. Committee travel expenses (10 persons)

(1) Point of origin to Rhode Island	512.00
(2) Air fares on tour of U.S. facilities	3810.00
(3) Bus Charter	2800.00
(4) Per Diem	3500.00
(5) Taxi	100.00
(6) West Coast to point of origin	1454.00

-12176.00

b. Translator salary and expenses (3 persons)

(1) Washington, D.C. to Rhode Island	167.00
(2) Air fares on tour of U.S. facilities	1143.00
(3) Per Diem	1050.00
(4) Salary @ 100/person/day	4200.00
(5) West coast to point of origin	<u>477.00</u>
<u>Total</u>	6970.00

c. U.S. Committee expenses in Russia (per person)

(1) Air fare to Russia	650.00
(2) Tour travel to Russian facilities	500.00
(3) Per Diem	350.00
Total per person	1500.00
Total for 10 persons	<u>15000.00</u>
<u>TOTAL COST TO U.S. COMMITTEE</u>	<u>34146.00</u>

5. Uncertainties

- a. Obtaining clearances to visit areas on the agenda which are closed to Russians
- b. Security for Russian visitors
- c. Communication
- d. Emergency situations of sickness or death of Russian visitors

B. Exchange of literature and data

1. Objective: An exchange of literature and data in the field of oceanic pollution, and pollution's effect on marine organisms is necessary in order to avoid duplication of effort. There is very little to be gained by constant repetition of well-done research.
2. Steps and dates: Urge the EPA to continue and expand its Foreign Literature Exchange Program. The following services would be greatly appreciated:
  - a. Collection of literature from the U.S.S.R., having any publications translated dealing with oceanic pollution and its effect on marine organisms, and making these articles available (at low cost) to individuals doing research in the field. This could be handled by subscription as is done by the American Geophysical Union and their translation of "Oceanology" which is available in major libraries. Another way this could be handled is to compile abstracts of the Russian research literature in the field and send these abstracts to the individual researchers. The translations of specific articles would be available at nominal cost to those interested.
  - b. Collection of reprints of U.S. authors, filing them by subject matter and sending the files to Russia. Every three months their files should be updated.

c. Compilation of a list of research workers in the U.S. and

in the U.S.S.R. with their specific interests, so that individuals can initiate on their own dialogues with their counterparts within the framework of the Agreement.

3. U.S. facilities to be involved: The Environmental Protection Agency already has an agreement with the Department of Commerce, Joint Publications Research service. This serves to make translations of technical articles available to EPA personnel. This agreement could be expanded to provide this service to libraries across the nation where marine research is going on and/or to research personnel themselves. This agreement is now being implemented by Miss Sarah M. Thomas, Chief of Library Systems Branch, M&OD, EPA, and Mrs. Marie White (Dept. of Commerce).
4. Budget: This program is already under consideration and implementation by the Library Systems Branch and the Office of International Affairs of EPA.
5. Problems: Unknown at this time.

C. Exchange of marine water quality standards

- Public Statement*  
*to app. 1000*  
*to app. 1000*
1. Objective: At this time much guesswork and extrapolation is used in arriving at marine water quality standards. These standards are of vital importance to the health of marine organisms throughout their entire life cycles, part of which may be completed in near coastal and estuarine environments.
  2. Exchange steps  
September 1973 - An initial exchange of the marine water quality standards and the methods by which they are derived.

April 1974 - After the U.S. and U.S.S.R.'s standard setting

research groups have examined each others results and methods, the scientists involved meet to discuss and resolve any differences. This group would then make recommendations to the governmental agencies of each side which set and enforce these standards.

3. U.S. facilities: National Marine Water Quality Laboratory and any private institutions which are involved with studies of toxicology of pollutants on marine organisms.

4. Budget

Travel (5 persons round trip to U.S.S.R.) @ 1500. ---\$7500

5. Problems: Unknown at this time.

D. Exchange of specific information, data, analytical techniques, methods, instrumentation details, specimens, etc.

1. Objectives: To facilitate rapid exchange of ideas and solutions to problems, to resolve conflicts of findings reported in the U.S. and U.S.S.R. literature, to avoid duplication of effort.

The specific areas of interest are listed below:

- a. Registration and analysis of pesticides and pesticide residues, effects of pesticides on marine organisms (lethal and sublethal)
- b. Setting up a world-wide pollution input budget of the oceans
- c. Effects of oil spills on marine organisms
- d. Effects of radioactivity in the environment



- e. Concentration factors of elements by marine organisms
- f. Effect of industrialization and pollution on commercial fisheries
- g. Fish disease related to pollution
- h. Analysis of heavy metals in seawater and tissues
- i. Effects of pollutants on plankton and bacteria

2. Steps

September 1973 - Appointment of a subcommittee of 5 U.S. research personnel in each problem area

January 1974 - Each committee would meet to exchange ideas; specific literature and data, and discuss respective problems, and arrange for standard and specimen exchange

3. U.S. facilities and personnel: Various universities and governmental agencies and their personnel will be asked to cooperate.

4. Budget

Travel expenses @ 1500/person for 15 persons      \$22,500

5. Problems: Unknown at this time.

E. Cooperation with monitoring of oceanic parameters

This item could be conducted under the auspices of the National Science Foundation's International Decade of Oceanic Exploration.

This agreement provides a vehicle by which the U.S.S.R.'s Hydro-meteorological Service and NSF can explore areas of cooperation to avoid duplication of effort.

IV. U.S. private organizations involved:

The following educational institutions will be involved in the initial interchange between the Russian Committee and the U.S. research personnel:

- A. University of Rhode Island
- B. Woods Hole Oceanographic Institution
- C. Yale University
- D. Princeton University
- E. University of Miami
- F. Texas A&M University
- G. University of Houston
- H. University of California, Scripps Institute of Oceanography
- I. University of Washington

V. Public Relations Plan

A. Use of local media

1. Work with public relations departments of the universities and public agencies involved
2. Preparation of press releases for local newspapers, syndicated press networks, and local television
3. Arrangements for press conferences when warranted

B. Use of the scholarly press

1. Preparation of advance press releases for trade magazines such as Chemical and Engineering News and Transactions of the American Geophysical Union
2. Preparation of articles to appear in scholarly journals such as Science, Environmental Science and Technology, and Journal of Geophysical Research
3. Arrange for interviews with Russian personnel if trade magazines so desire

C. Meetings with officials

1. Arrange for greeting parties of mayors, governors, Congressmen, as the Russian delegation arrives in an area
2. Arrange for discussion sessions with Congressmen on environmental committees

D. Use of local facilities for entertainment of Soviet personnel

1. Arrange with public relation departments of various organizations to provide tickets to concerts, opera, ballet, sports events, nightclub acts, etc.
2. Arrange for university or civic club sponsoring of banquets for Russian visitors.

DRAFT PROJECT PLAN FOR COMPREHENSIVE ANALYSIS OF THE ENVIRONMENT

1. Composition of the Working Group

Dr. L. D. Attaway, Deputy Assistant Administrator for Research, EPA, and Dr. J. A. Israel, Deputy Chief, Hydromet, will serve as Chairmen of the respective U.S. and U.S.S.R. Working Groups. Names and affiliations of Working Group members will be furnished at a later date, after preliminary definition of the project and specific sub-projects. The following agencies would be involved:

- Environmental Protection Agency
- Department of Health, Education and Welfare
- Department of the Interior
- Department of Transportation
- Atomic Energy Commission
- National Oceanic and Atmospheric Administration
- National Science Foundation

Participation of industry, State and local governments, and universities will be essential.

2. First Meeting of the Working Group

It is proposed that the first meeting between the U.S. and U.S.S.R. Working Groups take place in Washington, D.C., during the period February 26-March 5, 1973. In view of the vague nature of the proposal as presented in the Memorandum of Implementation and the original Soviet paper, preliminary discussions between the two Chairmen would be extremely useful in shaping an optimum agenda for the meeting. An invitation to the Soviet Chairman to visit the U.S., if accepted, would produce:

a. A careful definition of the overall project and its relationship to other projects under way under the Agreement. The latter is necessary because the subject project is a "capping" or synthesizing one.

b. Selection of at least three levels of environmental processes at which to focus the comprehensive analysis, such as simple biota; complex biosystems; and large man-inclusive ecosystems.

c. Identification of specific examples of such levels and the associated "minimum territories" for consideration, such as a small lake inlet; a large lake or estuary; and a region such as the Southern California bight-plus-airshed.

d. Description of the pollutants and species to be considered, and the approach to be used at each level. In particular, the relationship between analyses at different levels must be described, since outputs from lower-level analyses comprise much of the inputs to analyses at the next higher level.

The first Working Group meeting in February/March would then firm up the above items, and establish the timetable and format for the Fall symposium to be held in the U.S.S.R. In addition, visits to sites of mutual interest would be scheduled, as appropriate. A tentative agenda would include:

February 26, U.S. presentation

- (1) Identification of criteria for environmental pollutants

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- (2) Development of associated control technology for environmental pollutants
- (3) Establishment of environmental standards based on (1) and (2)
- (4) Proposed agenda items for 1973 Fall symposium

February 27, related presentation by U.S.S.R.

February 28-March 2, travel

Visits to EPA and other environmental government research, laboratories, universities and industrial installations. A detailed itinerary will be developed.

March 3 - 4 (weekend)

March 5, Washington, D.C.

Discussions. Structuring the Fall symposium. Meeting concluded.

### 3. Agenda for Cooperation

The objective of the symposium to be held in the U.S.S.R. in the Fall of 1973 is to examine scientific methods of setting standards or limits on pollution discharges into the environment from separate sources and from large regions. The symposium would focus attention on the effect of man's activity on all organisms and the biosphere as a whole to provide guidance for protection of the environment and the wise use of natural resources.

The methodology described above is certainly not new. Recent interest in the environment has stimulated a large body of research designed to provide information describing the effects of environmental

pollution on man's health and welfare. It is likely that Soviet scientists have also developed multimedia criteria which could be useful in extending EPA's own data base.

The conference would explore, define and outline cooperative activities on a small, selected set of relatively comprehensive environmental analyses, e.g., measurement of pollution impact on functioning of specified ecosystems such as mineralization rates and assimilation rates in small rivers; use of diversity indices in suburban and rural terrestrial environments subject to moderate levels of air pollution.

The Soviet proposal indicates considerable enthusiasm and some optimism in finding suitable analytical tools; the U.S. has some experience, but no wide-scale application, with certain indicators of total pollutant impact. Thoughtful discussion could lead to selection of promising analytical tools that should be explored in depth.

A second meeting of the Working Group could be held in the Soviet Union during August, if required. The purpose of this meeting would be to discuss:

- a. Possible additional scientific papers for inclusion in the symposium
- b. Further refinement of papers previously agreed upon
- c. Formulation of the final agenda

Identification of personnel and specific facilities to be involved will be furnished at a later date. An overall approximate budget of \$47,000 is based on the following categorical costs:

FY 1973

Domestic travel (5 Federal Government members for 3 days)	\$3,000
Translation	1,000
Travel to U.S.S.R., August (8 members for 2 weeks)	16,000
Translation	2,000
Travel to Fall symposium (10 Federal Government members for 2 weeks)	20,000
Translation	5,000
	<u>\$47,000</u>

Source of funds: reprogramming within EPA

Likelihood of Soviet acceptance is high.

4. Involvement of Private Organizations

An intensive effort will be made to stimulate private sector participation in the project. Experts from universities, industry, State and local agencies and conservation organizations will be considered as potential contributors and/or participants.

5. A Public Relations Plan

Each visit, meeting, and the symposium would be preceded by a general press release to the media, as appropriate.

A press release would be issued after each such meeting, describing the results of the activity and associated planning for implementation.

Reports of progress would be announced in press releases and made available to the public.



DRAFT PROJECT PAPER ON BIOLOGICAL AND GENETIC EFFECTS OF POLLUTANTS

The National Institute of Environmental Health Sciences (NIEHS), NIH-HEW, and the National Environmental Research Center, Research Triangle Park (NERC-RTP), EPA, will be the lead agencies in this effort. Dr. David Rall will represent NIEHS and Dr. Carl Shy will represent NERC-RTP.

In the initial areas of exchange, we propose to involve Dr. Paul Calabresi, Brown University, in the mutagenesis project, Dr. Thomas Clarkson, Rochester University, and Dr. Raymond Suskind, University of Cincinnati, in the heavy metal toxicology effort. Other universities and academic scientists will be identified as the program progresses.

FIRST MEETING

We propose that the Soviet Delegation arrive in the United States on March 11, visit Washington, D. C., the 12th and the morning of the 13th for general briefing sessions, and visit the Research Triangle Park March 13-16, 1973. During this time there would be general orientation sessions of the research programs of both the NIEHS and the NERC.

The next week it is proposed they visit the University of Rochester, University of Cincinnati, and Brown University, return to New York and depart on Saturday or Sunday.

The United States' participants would include Dr. Rall and his staff, Dr. Shy and his staff, Dr. Clarkson, Dr. Calabresi, and Dr. Suskind.

AGENDA FOR COOPERATION

We would propose to begin this exchange with three major subtopics: the Community Health Environmental Surveillance Systems for which the

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NERC-RTP would be responsible, the heavy metal and mutagenesis areas for which the NIEHS would be responsible. It is proposed that other areas mentioned in the September agreement would be discussed at the meeting in March, and that plans would be made for their development and implementation. The overall United States objectives of all three programs would be to make it possible to get the maximum information input from the research in these areas ongoing in the Soviet Union. There is reason to believe that the Soviet research may lag a few years behind that in the United States. It is clearly possible that we can, by working with the Soviets, encourage an increase in the quality and quantity of environmental health research in the Union of Soviet Socialist Republics and through our contacts have access to the research results produced by the Soviet scientists. This would significantly increase the research data base upon which all regulatory decisions are made. The long term benefit to the United States and to the Soviet Union would be a broadened information base on effects of environmental chemicals and physical factors on man so as to permit the best possible regulatory decisions.

#### BRIEF DESCRIPTION OF THE THREE AREAS

Effects of pollution on community health, the CHESS Program: This is an attempt to determine the impact on human health of the exposure of communities to environmental pollutants. Its primary emphases are on the body burdens of pollutants (e.g., synthetic organic compounds, metals, and fuel additives) within man and the effect of local pollution on community health. Possible areas of cooperation would be to obtain human samples for analysis of body burdens from select communities within the Soviet Union and to explore the epidemiological studies ongoing within the Soviet Union.

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Mutagenesis Program: At this point in time research in the U.S. on

mutagenesis testing is concerned with the development and validation of laboratory animal tests designed to detect mutations induced by chemical and physical factors within the environment. Since relatively little is known of the Soviet program in mutagenesis research, the first meeting would be an exploration of the current state of the program in each country.

Heavy Metal Toxicology: First, it will be necessary to determine which heavy metals are of primary importance to the U.S. and U.S.S.R. scientists. For instance, mercury, cadmium, and lead would appear to be major problems worthy of intensive cooperative efforts. Exploration of mutual research interests would follow.

These three programs would be in the first priority. Following the March meeting, it would be proposed that small groups of U.S. scientists would visit the Soviet Union to explore the current research ongoing in the three primary program areas. These groups would consist of representatives from both government and academic institutions. It would be anticipated that six man months would be spent in the Soviet Union in the six months after the March meeting. We would propose then a meeting in the Soviet Union in the fall of 1973. At this meeting each side would have enough information about the research programs of the other side to begin to identify those few specific areas in which meaningful collaboration could be initiated.

The government facilities within the United States which would be involved are the research laboratories of NIEHS and NERC-RTP. To a lesser extent the laboratories at the three academic institutions, University of Rochester, University of Cincinnati, and Brown University, would be involved. Dr. D. Rall, NIEHS, Dr. Carl Shy, EPA, would be co-chairmen on the U.S. side. Other U.S. personnel would include

Dr. Fred de Serres, Chief, Mutagenesis Branch, NIEHS; Dr. Robert Goyer, University of North Carolina, Consultant to NIEHS; Dr. Anthony Colucci, NERC-RTP; Dr. Tom Clarkson, University of Rochester; Dr. Raymond Suskind, University of Cincinnati; Dr. Paul Calabresi and Dr. Marvin Legator of Brown University.

The estimated cost for fiscal year 1973 would be approximately \$8,000 consisting almost entirely of travel and subsistence. For fiscal year 1974, with a meeting in the Soviet Union and individual scientists' exchanges, the cost would be approximately \$24,000. It would then maintain a level of about \$24,000 on an annual basis. These funds would be taken from the regular operating budgets of the NIEHS and the NERC-RTP.

The primary problems are (1) our lack of knowledge of the interest and capabilities in these specific areas of the Soviet scientists, (2) the severe problems of communication, and (3) the lack of adequate interpreters and translators, particularly the translation of exchanged scientific publications, etc. It is our estimate however that the Soviets would be very likely indeed to accept and to enthusiastically participate in the development and implementation of these projects.

#### INVOLVEMENT OF PRIVATE SECTOR

Much of the strength of environmental health research is within the academic institutions within the United States. Therefore, the three universities mentioned above and, probably in the future, other universities would actively participate in this program. As appropriate, representatives of private laboratories and industry would be invited to contribute.

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PUBLIC RELATIONS PLAN

There is a significant opportunity for good publicity within the Research Triangle Park area. We plan for the Delegation to meet the Governor of North Carolina, the Senatorial and Congressional leaders, and the mayors of the communities in the Triangle Park area. Newspaper interviews and television interviews with the American and Soviet scientists will be arranged. The reaction of the Soviets to such quaint local customs as the intense competition of inter-collegiate basketball, football, etc., in the Research Triangle Park area will be arranged to good effect.

Similar publicity would be developed for the proposed visits to Cincinnati, Rochester, and Providence.

Science reporters at the national level have shown great interest in this program and will be invited to meet the Soviet scientists. Reviews and summaries of the meeting will be submitted to technical journals.

12

DRAFT PROJECT PAPER

U.S.-U.S.S.R. ENVIRONMENTAL AGREEMENT

VIII. INFLUENCE OF ENVIRONMENTAL CHANGES ON CLIMATE

A. Composition of the Working Group

1. The U.S. Chairman of the Working Group is Dr. John W. Townsend, Jr., Associate Administrator, NOAA. He will initially be assisted by Dr. L. Machta, Director, Air Resources Laboratories, NOAA, Mr. D.H. Pack, Deputy Director, Air Resources Laboratories, NOAA, Dr. J. Smagorinsky, Director, Geophysical Fluid Dynamics Laboratory, NOAA, Mr. J.O. Fletcher, Head, Office of Polar Programs, National Science Foundation, and Dr. Alan J. Grobecker, Manager, Climatic Impact Assessment Program, Department of Transportation.
2. It can be expected that universities will be interested in being on the Working Group and it is planned that to provide for this type of input, a representative from NCAR will be invited to be on the Working Group when the project has been firmed up.

At this time no individual subgroups have been established but as mutual interest with the Soviets evolve, membership in the groups will be developed. Thus, it is anticipated that additional Federal agencies such as the Atomic Energy Commission, and EPA-- would become involved. Private sector participation may well expand to include organizations such as the Arctic Institute of North America and others. No commitments relative to individual membership on the Working Group or any sub-working groups that might be established have been made, as it is desirable to keep the situation fluid pending the participation of the Soviet individuals.

B. First Meeting of the Working Group

The United States proposed that the first meeting of the Working Group be in the United States starting December 4, 1972. This was not acceptable to the Soviets and we now propose February 5, 1973, as the starting date. The day-by-day itinerary and program is somewhat dependent on the individual Soviet members of the Working Group. As an initial program, it has been anticipated that the entire group would meet in Washington for a minimum exchange of information with visits to areas of particular interest to be arranged depending on the Soviet participation. With the program "Influence of Environmental Changes on Climate" having five separate areas of interest, it can be anticipated that an individual for each of these areas would be on the

Soviet Working Group. Thus, it would be possible for small ad hoc groups to be established with a Soviet and U.S. counterpart member with additional experts in the United States being invited to participate as required.

C. Agenda for Cooperation

1. Objective - To provide for exchange of information and participate in joint studies to provide for better understanding of the influence of environmental changes on climate. The following programs would be developed in the five areas of the Influence of Environmental Changes on Climate.

a. Effect of changing levels of Atmospheric Constituents

(1) Exchange information on influence on climate of gaseous and particular contaminants.

(2) Develop a program for a joint study on the radiative properties of atmospheric particles. Climate changes due to increased particles, either anthropogenic or natural (i.e., volcanic) can lead to either warming or cooling of the lower atmosphere depending, primarily, on their radiative (scattering, absorption) properties and on environmental factors. The absence of knowledge concerning radiative characteristics limits our long-term predictive capabilities.

Four independent approaches may shed light on the radiative properties of particles: (a) theoretical studies; (b) laboratories, controlled analyses; (c) in-site field analyses; and (d) field analyses of atmospheric radiative effects.

b. Monitoring Atmospheric Constituents that Might Modify Climate

- (1) General briefing by both groups:

(a) Existing baseline stations and measured constituents.

(b) Regional monitoring (turbidity and precipitation chemistry)

(c) Standards for observations

(2) Discuss program plans including exchange of staff for long tours at counterpart facilities.

(3) Develop programs for standardization of data formats and procedures and exchange of data.

(4) Develop a joint program for the calibration and/or comparison of instrumentation.

(5) Visit Air Resources Laboratories and other facilities.

c. Climate Modeling

(1) Briefing by U.S. and U.S.S.R. on activities and plans in climate modeling.

(2) Develop mechanism for joint collaboration in the application of mathematical modeling to assess the consequences of atmospheric contamination on climate.

Extended visits by mutually acceptable scientists to scientific institutions.

(3) Visit of delegation to Geophysical Fluid Dynamics Laboratory at Princeton, New Jersey.

It should be noted that if the U.S.S.R. Exchange Delegation in the fields of Atmospheric Modeling, Numerical Prediction and Weather Data Processing visits the United States in January-February 1973 in return for the U.S. Delegation's visit to the Soviet Union in August-September 1972, it will be visiting the outstanding climate modeling centers in the United States, and this could be an appropriate occasion to continue the detailed discussions under our Agreement.

d. Cooperation in Polar Research

(1) Develop plans for integration of such scientific programs as the U.S. Arctic Ice Dynamics Joint Experiment and Soviet Polar Interaction Experiment.

(a) Exchange of appropriate scientists.

(b) Comparison of instruments planned for use in these Arctic experiments.

(c) Visit of ice stations

e. Effects of Contamination of the Upper Atmosphere on Climate

(1) Exchange information on effluents of aircraft in the stratosphere.



(2) Exchange information on plans and studies on effects of perturbation of the upper atmosphere by propulsion effluents from high altitude aircraft.

(3) Develop a joint program on the study of effects of perturbation of the upper atmosphere by propulsion effluents from high altitude aircraft.

All five projects bring advantages to both countries in achieving and understanding of the trends of climatic change and their implications to each of the countries. Both countries represent large land masses from which each needs baseline monitoring station, information and technical data to compress the time of understanding of the changes that are taking place.

2. The first specific step is a meeting of the Working Group now proposed for February 5, in the United States which will exchange information, develop joint measures and plan for the exchange of personnel for the development of the program on the Influence of Environmental Changes on Climate. In the basic agreement, it is stated that a symposium will be held in the U.S.S.R. in 1973. It is anticipated that this symposium would allow both sides to present information which either was too involved or specialized and not possible of presentation in the first meeting and/or developed as a result of that meeting. It would further be anticipated that as developed in the first meeting, exchanges of small groups or of individuals would take place in selected specialized areas. Some of these exchanges would be for the purpose of attending specialized meetings of interest being held in the United States or as a part of a program of a scientific meeting sponsored by an appropriate international organization held elsewhere.
3. Initially the personnel to be involved would be those designated interim members of the Working Group. As interest developed and programs were defined, other individuals would be included to insure participation by appropriate specialists in the United States. The facilities to be utilized would be those of the Governmental agencies involved, i.e., laboratories, on-going experiments, field stations, etc. It is to be anticipated that some facilities and personnel of private organizations would be utilized principally by those of the individual universities concerned or of NCAR.

4. Budget - No special funding will be required for the first Working Group meeting if the Soviets pay their expenses in visiting the United States. It is expected that each agency would pay any expenses of its employees for incidental travel in the United States, etc. Expenses for the operation of the first Working Group meeting of interpretation, translation and printing of such documents as may be required--estimated at \$2,500--is expected to be available from NOAA. Each agency would be expected to pay the travel and per diem cost of its employees attending the symposium to be held in the Soviet Union in 1973. The cost of ad hoc groups or the exchange of personnel in 1973-74 with the Soviets would be expected to be met by individual agencies.
5. No problems are foreseen in mounting the project and the likelihood of Soviet acceptance seems high if they can finance their visits.

D. Involvement of Private Organizations

The primary private organization involved will be the National Center for Atmospheric Research and various universities who will be concerned with the individual subjects within the Influence of Environmental Change on Climate Working Group. Additional private organizations, such as the Arctic Institute of North America, will be brought into the project as developments warrant.

E. A Public Relations Plan

Publicity for the program for the first meeting would consist of photographs of participants, stories about the individual accomplishments and the program developed during the first meeting to be carried in newspapers and other media. Individual items would be written for appropriate technical journals indicating the scope of the meeting and its accomplishments with emphasis on future developments of the program. Special emphasis to the program would be given by NOAA Public Information Office from both the technical and human interest standpoint making press releases and photographs available to the media. It would appear that the best publicity will be obtained after the first meeting with the exchange of personnel and/or the work of small groups in one of the five specialized areas of the influence of environmental change on climate inasmuch as these individuals and meeting would be held outside of Washington where the participation of Russians with Americans in joint projects will be more newsworthy.

Day-by-day Itinerary and Program of First Meeting of the Working Group

February 4, Sunday

Arrive New York and Washington, D.C.

February 5, Monday

A.M. - General review of proposal

P.M. - Detailed discussions of (1) Effect of Changing Levels of  
Atmospheric Constituents

February 6, Tuesday

Continue (1) above

February 7, Wednesday

Detailed discussions of (2) Monitoring Atmospheric Constituents  
that Might Modify Climate

February 8, Thursday

A.M. - Continue (2) above

P.M. - Detailed discussions of (3) Climate Modeling

February 9, Friday

Continue (3) above

February 10-11, Saturday-Sunday

Off

February 12, Monday

Detailed discussions of (4) Cooperation in Polar Research

February 13, Tuesday

A.M. - Continue (4) above

P.M. - Detailed discussions of (5) Effects of Contamination  
of the Upper Atmospheric on Climate

February 14, Wednesday

Continue (5) above

February 15, Thursday

A.M. - General Review of discussions of proposed work program

P.M. - Travel to Princeton, New Jersey

February 16, Friday

Visit to NOAA, GFDL, Princeton University, New Jersey

February 17, Saturday

New York

February 18, Sunday

Depart for U.S.S.R.

NOTE: Visits to other facilities in the Washington metropolitan area  
by individuals on the U.S./U.S.S.R. Working Group may be  
arranged as desired.

November 27, 1972

1. Composition of the Working Group

A preliminary list of organizations primarily involved in the program and representatives of those organizations is shown in Table I. From this list, a few scientists will be selected to assist the chairmen in formulating the exchange program and choosing the US participants.

2. First Meeting of the Working Group

(a) Meeting in the U.S. It is proposed that a Soviet delegation of 14 experts visit the U.S. March 4 - 18, 1973. The purpose of this visit is to provide to the Soviets an overview of U.S. activities in the earthquake research and services, including premonitory effects and prediction of earthquakes, hazards assessment (includes seismic risk mapping, seismicity, and earthquake resistant design), and tsunami warnings. The proposed itinerary is shown in Table II. The Soviet delegation would meet with a group of approximately 40 U.S. scientists selected from participating organizations in government, universities, and private companies.

(b) Meeting in the U.S.S.R. It is proposed that a delegation of 14 experts from the U.S. meet in Moscow for a few days in June 1973. The delegation would then separate for visits to Garm (premonitory effect and prediction effects of earthquakes), Tashkent (hazards assessment), and Khabarovsk (tsunami warning). The delegation would expect to be in the Soviet Union for two weeks.

3. Agenda for Cooperation

(a) Objective. The meetings between U.S. and U.S.S.R. scientists in the U.S. in March 1973 and in the U.S.S.R. in June 1973 will be followed by extended personnel exchanges in FY 1974. An essential task during the initial exchange of delegations will be an evaluation of instruments being developed and utilized in both nations to plan the joint monitoring in FY 74 and beyond of precursors and effects of earthquakes in the San Andreas fault area of the U.S. and the Garm-Dushambe region of the U.S.S.R. The program will focus on three topics in the field of earthquake prediction: Premonitory Effects and Prediction of Earthquakes, Hazards Assessment, and Tsunami Warning. The general objective of cooperative programs on these topics is to develop a mutual understanding of the approach, results, and important problems involved in U.S.S.R. and U.S. research studies. This objective is consistent with the objective of the Earthquake Hazards Reduction Program requested by the President in the FY 73 budget. Benefits to the U.S. and U.S.S.R., in the long term, are reduction of loss of life and property damage from an earthquake. In the short term, benefits to both nations will accrue in the form of accelerated progress through exchange of techniques and experiences.

(b) Specific steps and dates. The first steps in implementing this program, discussed above under item 2, are the meetings of the delegations in March and June of 1973. During FY 74, it is planned to exchange scientists for extended periods (three months or more) to work in specialized areas of research within the three topics discussed at the earlier meetings. It is expected that after the first exchange visits, a complete description of subsequent steps to be undertaken should be much more evident. In some of the areas, the exchange of information may be adequate. In other areas, exchange of personnel and equipment for joint monitoring for a longer time scale is expected.

Projects proposed for study in FY 74 are:

Premonitory Effects and Prediction of Earthquakes:

In the long run, if earthquakes can be predicted, great gains to society will be achieved. Even though a useful realization of the prediction goal is not immediately at hand, it is a goal that should be pursued vigorously. Through an intensive program of earthquake prediction research, U.S.S.R. scientists have reported a variety of premonitory effects of earthquakes. Studies will be made of U.S.S.R. results and current research on variations in seismicity, seismic wave velocity, focal mechanisms, water level in wells, radon gas emission in well water and other phenomena. The U.S. program stresses studies of the feasibility of earthquake control and the search for premonitory effects as may be found in strain, tilt, creep, and magnetic and electrical resistivity changes. Close scientific collaboration with U.S.S.R. scientists will be sought.

Hazards Assessment:

This topic is given high priority because the probability of a payoff to the citizens of both nations is very high if it is pursued energetically. The basic techniques required are now available in both countries and both countries have made good beginnings on this topic. Seismotectonic maps of the Soviet Union have been produced, and micro-regionalization maps have been prepared for a number of important areas. The first widely used seismic zone maps for the U.S. were prepared in 1948, but it is only in the last five years that this subject has received concerted scientific attention in the U.S.

A key element under this effort is the recording of ground motion near large earthquakes (strong motion records) and relating these measurements to local soil conditions and geologic settings. These records describe the shaking that structures must withstand. These data are essential to the design engineers who must make sure the structures will survive expected earthquake shaking. Another part of the general problem of earthquake hazard evaluation and reduction, and also a vital input to research on premonitory effects, is the general study of the location of earthquakes in time and space together with statistical treatment of the data to more completely describe the risk.

Tsunami Warnings:

The U.S. operates a Tsunami Warning System in the Pacific Ocean Basin to provide early warning to the people of the Basin whenever a tsunami potentially dangerous to life or property is generated. The U.S.S.R.

currently operates a tsunami warning system for protection of its people in the Kurile Islands.

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We wish the U.S.S.R. to provide seismic data on all major earthquakes recorded at Petropavlovsk or other seismic observatories in the Kamchatka or Siberian regions. Additionally, we would like the U.S.S.R. to provide tsunami data from tide stations in the Kurile Islands, Kamchatka, and the Komandorski Islands. To be of value for tsunami warning, these data must be reported on a timely basis. In return, we will provide selected seismic and tide data and tsunami watch and warning data to the U.S.S.R. An important objective of this exchange program is to develop cooperative research in tsunami generation, propagation, and prediction of run-up and other terminal effects.

Additional program in FY 75:

It is planned that programs will be developed in FY 75 to exchange knowledge, experience, and techniques to improve the design of structures to withstand shaking caused by earthquakes. This exchange would include basic design research and testing as well as methods used to insure that new techniques are translated into use by practicing engineers.

(c) U.S. facilities and personnel to be involved. Table I lists the U.S. organizations involved. Principal facilities to be visited by the Soviets are university laboratories in the San Francisco and Los Angeles areas, USGS and NOAA facilities in California, the Denver-Boulder, Colorado area, and Alaska and Honolulu. Various government and university monitoring and research stations along the San Andreas Fault System are also included.

(d) Budget. The budget for the exchange of scientists assumes that the sending country will pay all salaries plus travel and per diem to the point of entry of the country being visited. It is further assumed that salaries of U.S. participants will continue to be provided by their parent organizations.

FY 1973 Soviet two-week visit to the U.S. (assume 14 people):

Travel (in the U.S.)	\$ 6,000
Per diem	5,000
Translation, escorts, etc.	3,500
Misc. costs	1,000
	<u>\$15,500</u>
Travel and per diem for U.S. scientists - 30 @ \$500	15,000
Total	<u>\$30,500</u>

FY 1973 U.S. two-week visit to the U.S.S.R. (assume 14 people):

Travel to the U.S.S.R.	\$10,000
Per diem to and from the U.S.S.R.	700
	<u>\$10,700</u>

FY 1973 meetings of scientific committee \$ 3,500

FY 1974 - costs for each U.S. scientist visiting the Soviet Union for 90 days each

Travel to Moscow and return	\$700
Per diem en route	<u>100</u>
	\$800

12 scientists @ \$800	=	\$ 9,600
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FY 1974 - costs for each Soviet scientist visiting the U.S. for 90 days each

Per diem - 90 days @ \$25	\$2,250
Travel in the U.S.	<u>700</u>
	\$2,950

12 scientists @ \$2,950	=	\$35,400
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FY 1974 meetings of the scientific committee	\$ 3,500
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Two Year Total Estimated Costs

FY 1973	\$44,700
FY 1974	\$48,500

USGS, NOAA, and the NSF will provide these funds. Under some previous exchange programs, NOAA has paid travel and per diem costs for Soviet scientists while they are visiting the U.S. in return for Soviet support of U.S. scientists while in the U.S.S.R. The NSF has no policy limitation on supporting visiting foreign scientists. The USGS is still studying this problem. No administrative problems are anticipated by these three agencies in funding the exchange of scientists as proposed in this budget. It should be noted that USGS, NOAA, and NSF increases for the Earthquake Hazards Reduction Program have not yet been apportioned by the Office of Management and Budget.

(e) Uncertainties or problems and estimate of Soviet acceptance.

It is quite likely the Soviets will be agreeable to the technical program suggested above. Most of the research envisioned is contained in the suggestions made in the initial proposal submitted by the Soviets at the Moscow meeting in September 18-22, 1972. This U.S.S.R. proposal did not include tsunami warnings, but there have been many discussions between U.S. and Soviet specialists over the past few years which indicate a willingness to cooperate in this program.

It is unlikely that NOAA, USGS, and NSF will be able to participate in this program at the level suggested above if the earthquake hazards reduction program increases appropriated by the Congress are not made available in fiscal year 1973.

4. Involvement of Private Organizations

The participation of university scientists and industrial scientists is essential to the success of this exchange. It is planned that the mix of government, university, and industrial scientists be reasonably balanced. In the final selection of the U.S. members of the delegation to the U.S.S.R. and in the selection of individual scientists for extended studies, the

the chairmen will consult with the scientists selected to assist in the program.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3

5. Public Relations Plan

(a) January 1973 - NOAA/USGS/NSF press release announcing commencement of the project, naming chairmen and deputies, and describing general nature of project.

(b) February 1973 - Article by project chairmen in Geotimes and EOS, the most widely read news magazines of the earth sciences. The article will describe the history of the project, its goals, and the procedures for achieving them. Emphasis will be placed on benefits to be derived by both nations through this exchange of scientists from government, universities, and companies.

(c) February 1973 - NOAA/USGS/NSF press release concerning visit to U.S. of U.S.S.R. delegation.

(d) March 1973 - Press and/or radio and TV interview with the Soviet delegation.

(e) May 1973 - NOAA/USGS/NSF press releases concerning visit to U.S.S.R. of U.S. delegation.

(f) November 1973 - Article by project chairmen in Geotimes and EOS. The article will summarize results of exchange and describe plans for 1974.



TABLE I

Preliminary List of U.S. Organizations and Representatives to be involved in the U.S.-U.S.S.R. Exchange Program. The list is not complete with regard to organizational participation. Also alternate representative may be named.

Representatives	Organization	Premontory Effects and Prediction	Hazards Assessment	Tsunami Warning
Robert Wallace (Co-Chmn)	USGS	x	x	
Robert Hamilton (Dep. Co-Chmn)	USGS	x	x	
L. R. Aildredge (Co-Chmn)	NOAA		x	x
Wilbur Eskite (Dep. Co-Chmn)	NOAA		x	x
L. Sykes	Lamont	x	x	
F. Press	MIT	x	x	
W. Stauder	St. Louis	x	x	
A. Ryall	Nevada	x		
S. Smith	Washington	x	x	
B. Bolt	Berkeley		x	
G. Thompson	Stanford	x		
C. Allen	Caltech		x	
J. Brune	Scripps	x		
L. Knopoff	UCLA	x		
J. Oliver	Cornell	x	x	
G. Housner	Caltech		x	
M. Duke	UCLA		x	
H. Seed	Berkeley		x	
R. Whitman	MIT		x	
G. Berg	Michigan		x	
N. Newmark	Illinois		x	
C. Kisslinger	Univ. of Colo.	x	x	
K. Steinbrugge	Pacific Fire Rating Bur.		x	
Li-san Hwang	Tetra Tech			x
N. Donovan	Dames and Moore		x	
H. Degenkolb	Degenkolb Assoc.		x	
W. Hays	ERC		x	
J. Blume	Blume Assoc.		x	
D. Tocher	NOAA	x	x	
L. Murphy	NOAA		x	
T. Algethamssen	NOAA		x	x

TABLE I - Cont.

Representatives	Organization	Premonitory Effects and Prediction	Hazards Assessment	Tsunami Warning
Mathiesen	NOAA		x	
Miller	NOAA			x
Lander	NOAA		x	
Eaton	USGS	x	x	
Wesson	USGS	x	x	x
Borchardt	USGS		x	
Savage	USGS	x		
Plafker	USGS	x	x	
Thatcher	USGS	x		
Hanson	NSF			
Thiel	NSF			
Drubb	USGS		x	
Crittenden	USGS		x	
Nuttl	St. Louis	x	x	
Anderson	Caltech	x		
Archambeau	Caltech	x		
Jennings	Saltech		x	
Bollinger	VPI		x	
Pfluke	NOAA	x		
Taggart	NOAA		x	

TABLE II

Approved For Release 2001/08/27 : CIA-RDP79-00798A000700060002-3

## Proposed Itinerary

Date	Premonitory Effects and Prediction	Hazards Assessment	Tsunami Warning
March 4 (Sun)	Soviet delegation arrives New York - met by escorts and interpreters.		
5 (Mon)	Travel to San Francisco with escorts and interpreters.		
6 (Tues)	Entire delegation meet with U.S. participants for overview discussion in Menlo Park.		
7 (Wed)	Continue in Menlo Park.		
8 (Thurs)	Meet in Menlo Park to discuss status and current direction of prediction research. Include visits to EML, and several universities in SF and LA area, visits to sites on San Andreas fault, etc.	Meet in SF area to discuss risk assessment, hazards mapping, strong motion program, etc; include visits to universities.	Visit the Palmer regional tsunami warning center.
9 (Fri)			
10 (Sat)			
11 (Sun)	Rest, travel or additional site visits.		
12 (Mon)	Continue in California.	Continue in California; travel to Denver in evening.	Travel to Honolulu to visit the NOAA observatory and Joint Tsunami Effort.
13 (Tues)	Continue in California.	Meet in Boulder-Denver area.	Continue in Hawaii.
14 (Wed)	Continue in California.	Continue in Colorado.	Continue in Hawaii.
15 (Thurs)	Travel to east coast.	Continue in Colorado.*	Continue in Hawaii.
16 (Fri)	Visit east coast institutions.	Continue in Colorado.*	Travel to west coast
17 (Sat)	Continue on east coast.	Travel to New York.*	Travel to east coast
18 (Sun)	Soviet delegation depart New York.		

\* May be revised to include east coast visit.

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NOV 30 1972

MEMORANDUM FOR JOHN GUARLES  
Environmental Protection Agency  
KENT PRIZEELL  
Department of Justice  
JOHN LARSON  
Department of the Interior  
MARTIN HOFFMANN  
Atomic Energy Commission  
KENNETH E. PAYNE  
Department of Commerce  
COL. WILLIAM BARNES  
Department of the Army

SUBJECT: Implementation of Soviet-American Environmental Agreement: Draft Project Paper on Legal and Administrative Measures for Protecting Environmental Quality

I enclose a draft project paper describing steps to be taken to implement the Soviet-American environmental agreement in the area of legal and administrative measures for protecting environmental quality. I invite your comments on the paper. Because we have begun discussing the project papers with OMB, it is important that I receive any suggestions you may have by Wednesday, December 6.

EPA and the Corps of Engineers should give special attention to the budgetary implications for them of the paper as written. I would be pleased to talk with representatives of those agencies if the funding arrangements described do not appear workable.

(Signed) Timothy Atkeson

Timothy Atkeson  
General Counsel

Enclosure

November 30, 1972

Implementation of the US - Soviet  
Environmental Agreement

Working Group 14: Legal and Administrative  
Measures for Protecting Environmental Quality

Project Paper

1. Composition of the Working Group.

The initial U.S. members of the working group to deal with legal and administrative measures will be:

(a) U.S. Government representatives (or their designees):

John Quarles, Environmental Protection Agency

Kent Frizzell, Department of Justice

John Larson, Department of the Interior

Martin Hoffmann, Atomic Energy Commission

Kenneth E. Payne, Department of Commerce

Col. William Barnes, Department of the Army

Timothy Atkeson, Council on Environmental Quality  
(Chairman of Working Group)

(b) Possible nongovernmental participants:

Legal Committee, United States United Nations  
Association (New York City)

Environmental Law Institute (Washington, D.C.)

Citizens Advisory Committee on Environmental Quality  
(Washington, D.C.)

-2-

Dr. Gilbert White, Institute of Behavioral Sciences, Univ. of Colorado (Boulder)

Robert Kennan, National Wildlife Federation (Washington, D.C.)

Dr. Lynton K. Caldwell, Department of Government, Univ. of Indiana

Arctic Institute of North America (Canada and Washington, D.C.) (has expressed interest in discussing legal issues relating to arctic area)

Selected member of the private Washington, D.C. bar

Possibly others if interest is expressed.

2. First Meeting of the Working Group.

It was agreed in Moscow in September that the first meeting will take place in Washington, D.C. in early Spring 1973. The Soviets will be invited to send a team of specialists to Washington, on a sending-side-pays basis, for a four- or five-day conference. The U.S. participants will include all U.S. members of the working group. The conference will consist of a series of meetings to discuss the topics on the agenda, combined with visits to Federal offices and facilities in the Washington area.

3. Agenda for Cooperation.

(a) The first topic for discussion will be a comparison of procedures in the U.S. and U.S.S.R. to identify, evaluate, and inform government decisionmakers on the environmental effects of major government decisions. The types of procedures to be discussed will include environmental impact statements, cost-benefit analyses, and special procedures for the siting of major facilities such as electric powerplants. The objective for the U.S. will be to acquaint the Soviets with the recent advances made in this area in the U.S. and to learn

-3-

of procedures in the more centralized Soviet system that might be adaptable to the U.S. system. This objective is directly related to the overall U.S. goal of encouraging the Soviets to develop the institutional framework for more formalized consideration of environmental problems. Realistically, the balance of benefits from discussion of this topic will probably be in favor of the Soviets, since the U.S. has gone farther to date in formalizing procedures for bringing environmental factors into government decisionmaking.

Specific steps related to this topic will include discussions, the exchange of Chapter 7 of CEQ's Third Annual Report for any similar paper from the Soviets, and visits by the Soviets to Federal offices concerned with preparation of impact statements and evaluation of projects (suggestions: Water Resources Council, EPA Office of Federal Activities, Bureau of Reclamation). Later in 1973 or in early 1974 a similar visit by U.S. representatives to the U.S.S.R. might be valuable. No special funding will be required if the Soviets pay their expenses in visiting this country. We foresee no problems in mounting the project, and the likelihood of Soviet acceptance seems high if the Soviets are willing to finance their visit. If the U.S. must pay the visitors' expenses (besides transportation to this country), funding of \$2,500 for a five-day visit of ten Soviet specialists is expected to be available from EPA.

(b) A second topic for discussion will be alternative mechanisms and strategies for pollution control and enforcement -- including permits, effluent charges, and prohibitions with civil or criminal sanctions. The objective again will be to promote an understanding of the mechanisms used in the U.S. and to learn whether the Soviets have developed mechanisms possibly useful to us. At least three subsidiary issues will be included in the discussions: (1) How is enforcement in the U.S. affected by the Federal-State system, and do the Soviets

-4-

face a similar situation; (2) what are the means used in the U.S. for enforcement against various types of pollution; and (3) to what extent can the public availability of information on industrial pollution make the regulatory system self-enforcing.

Specific steps will include discussions during the Soviet visit in Spring 1973, with possibly a return visit in late 1973 or 1974. Special funding will not be necessary if the Soviets are willing to pay for their visit. Soviet acceptance is fairly likely, although the Soviets may lack interest in certain aspects of the topic (for example, citizen enforcement).

(c) In connection with either topic (a) or (b), we will invite a Soviet specialist to spend an extended visit (up to 6 months) working in a Federal agency dealing with environmental assessment or enforcement. It is proposed that the host agency be the Army Corps of Engineers, with the possible alternative of either EPA's Office of Federal Activities or EPA's enforcement office. The visit will enable the Soviet specialist to observe in operation the legal and administrative measures discussed at the Spring 1973 conference.

The visit will begin immediately after the Spring 1973 conference and last for up to six months, depending upon funding. The U.S. personnel and facilities involved will be those of the Corps' central offices in Washington, D.C. Funding required will be only the salary of the Soviet visitor, probably no more than \$10,000. The availability of these funds from the Corps is still being explored. Soviet acceptance appears likely.

#### 4. Involvement of Private Organizations.

The private organizations and individuals listed in I(b) above, with possible additions, will be invited to participate in the discussions at the Spring 1973 conference.



-5-

5. Public Relations.

Since the conference will take place entirely in Washington, D.C., press releases describing the conference will be released to the local press and to all national news services. In addition, interviews will be encouraged between the Soviet visitors and members of the press. A joint press conference will be held at the close of the conference to explain its accomplishments.

UNCLASSIFIED

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INTERNAL  
USE ONLY

CONFIDENTIAL SECRET

## ROUTING AND RECORD SHEET

SUBJECT: (Optional)

Fourteen Draft Project Papers for the US-USSR Environmental Agreement

FROM: [REDACTED]  
Chief, East-West Exchanges Staff

EXTENSION

2492

NO.

EXS-47-73

DATE

9 Feb 73

STATINTL

TO: (Officer designation, room number, and building)

DATE

RECEIVED

FORWARDED

OFFICER'S  
INITIALS

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

1.

[REDACTED] OSI  
Hqs 6F36

12 Feb

16 Feb

LHM

2.

STATINTL STATINTL

3.

[REDACTED] OER  
Hqs 4F19

16 Feb

16 Feb

SB

3a

4.

[REDACTED] OER

16 Feb

16 Feb

SB

4a

[REDACTED] OER

16 Feb

20 Feb

BHM

5.

[REDACTED] OBG  
MAG 806

23 Feb

1 March

WJR

6.

[REDACTED] OBG  
Bill Mag

7.

[REDACTED]  
Key 902 A

1 March

B

8.

[REDACTED]  
ESD

9.

[REDACTED]  
ExS (File)

10.

11.

12.

13.

14.

15.

Bart, Trudy, Ron: the attached  
CEQ proposals are the ones I called  
you about. State would  
appreciate your comments by 23 Feb 73.  
Thank you for your cooperation.

STATINTL [REDACTED]

3a to 7 - Agree with  
OSI comments.

STATINTL

STATINTL

STATINTL

STATINTL

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